TWO NEW COMMERCIAL VEHICLES

See Pages 3 and 11

MODERN TRANSPORT

"THE TIMES" OF THE TRANSPORT WORLD

GOLDEN JUBILEE OF POTTERIES

See Page 7

VOL. LXXIX No. 2049 [*Registered at the G.P.O. as a newspaper*] LONDON, JULY 5, 1958 PRICE NINEPENCE

CURRENT TOPICS

London Transport Wages and Fares

THE London Transport Executive's offer of 5s. a week increase on the wages of country bus crews, garage maintenance staff and Green Line coach conductors, and of 7s. 6d. for Green Line single-deck coach drivers, is on the understanding that the union will co-operate in reducing working expenditure and improving productivity. The 5s. is equivalent to about 3 per cent for the 11,000 workers affected, who were left out of the Industrial Court's award, and is roughly in line with the increases conceded to the railwaymen. But it does not satisfy Mr. H. Nicholas, assistant general secretary of the Transport and General Workers' Union, and at the time of writing further bargaining is in progress. The concession of 8s. 6d. a week to the central busmen will cost £1 million; this additional offer represents a further £170,000 a year. Sir John Elliot's hint that fare increases might be needed to meet the former invoked Ministerial remonstrance, hence presumably the emphasis on economies to meet the latter. His position is an unenviable one. Apart from the money needed to pay wage increases the London Transport Executive is not meeting its full contributions to the central charges of the Commission. Economies are shunned by the union and fare increases are anathema to the Government. But both will be needed to put London Transport in the clear. Governmental rebukes are in line with anti-inflation policy but are contrary to the legislative measures governing the British Transport Commission. That body cannot be expected to pay its way if denied the wherewithal to meet higher costs. And if higher fares are to be forbidden in London, why are they not taboo also in provincial cities? The position of chairman of the L.T.E. is becoming an impossible one.

Trade Unions and the Public

IN his address last week to an assembly of the college faculties of University College, London, Lord Denning, a Lord of Appeal in Ordinary, did well at this juncture to call attention to the immunity of trade unions from the ordinary processes of law. Surprisingly, he did not advocate a change, pointing out that legal irresponsibility put upon them a great moral responsibility. Whether the union leaders, holding positions dependent upon the goodwill and support of the members, are always able and willing to act adversely to the wishes of the latter is another question. They themselves might, albeit secretly, welcome some legislative support when it became necessary to subordinate the desires of their members to the general interests of the community. Lord Denning pointed out that the outlook in industrial disputes has changed since the employer, no longer an individual or a profit-making company, has become a nationalised industry suffering losses. There was a need, he said, for the reference of such disputes to some impartial person or persons in whom the people at large had confidence, adding that the remedy lay not in a change of law but in an increasing responsibility of the leaders and the men themselves. We had reason to be thankful, he said, that the trade union movement in this country was led by men who realised their responsibilities to the public and, as recent events had shown, had faithfully discharged them. So far as the men were concerned it rested on each one of them to realise his responsibilities to the public as well as to himself. A pious hope indeed and one which for its fulfilment must rely largely upon the influence and persuasive powers of the union leaders.

Liberty and Licence

COMMERCIAL advertising on vehicles and stations is a useful source of revenue to transport undertakings. For the British Transport Commission in 1957 it brought in a net revenue of nearly £2 million. In a letter to *The Times* Mr. J. H. Brebner, public relations adviser to the Commission, describes its code of standards for such advertising, which "precludes the display of certain types of announcement covering such things as claims to cure disease, incitement to crime, politically and religiously controversial statements, 'knocking' copy, and so on." He refers to the tendency towards the salacious in certain posters, the clause governing which has hitherto provided for their prohibition if they depicted obscenity or nudity. The tendency has evidently grown because refusals have increased in number. States Mr. Brebner: "When we have refused such posters the technique of some would-be advertisers, capitalising the intrinsic news value in the word 'ban,' has been to announce to the Press that we have refused to display their publicity. In some cases, indeed, the advertisements submitted have been so obviously unacceptable that the object of their sponsors would appear to have been deliberately to secure a ban so as to enjoy consequential Press publicity free of charge." The Commission has therefore decided to extend its prohibition to "all advertisements which depict or refer to nude, striptease or similar shows, which advertise films refused a certificate by the British Board of Film Censors, or which are likely, through wording, design or possible defacement, to offend the travelling public." The Commission, he says, is conscious that the division between liberty and licence is often a matter of opinion; there is little doubt, however, that the public will endorse its stand in this matter.

Conversazione in Westminster

LAST week's conversazione at the Great George Street headquarters for members and guests of the Institution of Civil Engineers brought life and colour to Westminster on an inclement evening. Received by the president, Sir Arthur Whitaker, and Lady Whitaker, participants were offered a wide choice of entertainment and interest—the usual fascinating exhibition of engineering models and scientific apparatus in the library; a film, *A Gift of Nature*, describing the development of the Ontario Hydro electricity generating board in the past half-century and stressing one of the objects of the Institution, "the art of directing the great sources of power in nature for the use and convenience of man"; music and, later, dancing; a piano recital by Miss Melita Yannicosta; and refreshments including the seasonable strawberries and cream. This year's exhibition included a number of working demonstrations; several of these involved the use of considerable quantities of water, always a source of keen interest when pumped vigorously through open channels in such dignified surroundings, but on this occasion used to extremely good effect in a Hydraulics Research Station exhibit in connection with the spillway of the Navet Dam in Trinidad and in the Western Region model demonstration of mechanically pointing wet brickwork through which a considerable flow of water passes. The gun for projecting the mortar, as described in the Institution's *Proceedings* for 1956, automatically mixes with the mortar a sodium silicate preparation to effect its setting within seconds. This has been successfully used in more than a dozen wet railway tunnels and one can foresee many other uses for this product of the ingenuity of the Western Region Soil Mechanics Laboratory under the direction of the chief civil engineer, Mr. M. G. R. Smith. Also shown by him were a direct method of locating slip planes in the slopes of embankments or cuttings and an application to Saltash Bridge of a method of measuring and recording slow alternating movements by potentiometer transducers and a phase-sensitive amplifier which is unaffected by voltage or frequency variations in the source of current or by changes in temperature. Other exhibits of transport interest included a model of the Chiswick flyover, one of the underpass at the Ace of Spades, the suspension road bridge across the Firth of Forth in model form; aerial surveys in connection with highway design; the London Transport automatic junction working programme machine; and a weighbridge devised by the Road Research Laboratory to weigh automatically vehicles in motion.

Australian Aircraft Needs

NOW that some of the tumult and shouting about Australian aircraft orders has died down, it becomes possible to consider whether, in fact, that market holds much future for British manufacturers. That it can do so has been indicated by the visit to this country of Mr. R. M. Ansett, chairman and managing director of Ansett-Australian National Airways, who, apart from his surface transport, industrial and hotel interests, also controls Butler Air Transport and Queensland Airlines. The air companies still maintain many of their services with Douglas DC3s and it is clear in Mr. Ansett's mind that the only suitable types of aircraft to replace them are the Handley Page Herald and the Fokker Friendship, both of which have two Rolls-Royce Dart turboprop engines. It has been to take a personal look at these types that he has come to Europe although he has also been concerned to see Vickers-Armstrongs and Rolls-Royce on matters regarding the Viscount 800s which Ansett-A.N.A. has on order. There seems no reason to expect the remarkable development of Australian air transport to slow down but the advent of faster and larger aircraft does mean that fewer machines will do the same amount of work and the competition to supply them will be all the more keen.

75 Years of Telecommunications

TO mark the seventy-fifth anniversary of its establishment in 1883 Standard Telephones and Cables, Limited, has this week staged a remarkably comprehensive exhibition at the Waldorf Hotel in London. From a small importing agency with a staff of three the activities of the company have developed to such an extent that it now employs 25,000 men and women at eight major factories in the United Kingdom. Products cover virtually the whole field of telecommunications and it has, of course, been possible to include only a representative selection in the exhibition. Where practicable the contrast has been pointed by comparison with early examples of equipment in a particular field and this brings home most forcibly the progress that has been made—sometimes in as short a time as the past five years. So far as readers of MODERN TRANSPORT are concerned, S.T.C. will be especially well known on the railway side for its signalling and control equipment and in the field of aviation for its airborne communication and navigation equipment and on the ground for radar, direction finding and other installations. Among the latest developments shown was the Commutated Antenna Direction Finder and the latest SLA3 precision-approach radar. Installation of the Strad telegraph retransmission system at Gatwick Airport has recently called attention to this equipment but the version on show is even more modern. Another new development is an electronic character generator for use in train describer systems which requires only one aperture to display any combination of 26 letters and 10 numbers and consequently saves much space.

An Interesting Regional Appointment

WE understand that Mr. A. J. Pearson, M.Inst.T, chief of general duties on the general staff of the British Transport Commission, has been appointed assistant general manager, London Midland Region, British Railways. The appointment is an interesting one because, after 10 years with the Commission and the former Railway Executive, Mr. Pearson has chosen to return to Euston, where he served under Sir William Wood from 1934 to 1948. The experience and knowledge then gained, strengthened by a decade of administrative duties and in implementing policy at Commission headquarters, should be invaluable in his new position. After early railway training with the Cheshire Lines Committee he accepted an appointment on the editorial staff of this journal in 1931. In this capacity he came under the notice of Sir William Wood at whose invitation in 1934 he returned to railway service, becoming assistant to vice-president (finance and service), L.M.S.R., three years later. Following the tragic death of Lord Stamp in an air raid in 1941, Sir William Wood became president of the L.M.S., whereupon Mr. Pearson was appointed assistant to president. In this position he fulfilled a number of assignments, including work in Northern Ireland and the United States, serving on committees concerned with the "Square Deal" campaign, nationalisation, traffic costing, etc., on problems of organisation and on Railway Rates Tribunal work. In 1948, on the unification of the railways under the aegis of the B.T.C. and the appointment of Sir William Wood as a member of the Railway Executive, Mr. Pearson became chief officer (administration) on the Executive and was closely concerned with the work of preparing the new organisation. When, in 1954, the Railway Executive was abolished he was appointed chief administrative officer on the staff of the Commission and, in the reorganisation which followed a year later, was made chief of general duties. He has twice served a three-year period on the council of the Institute of Transport, to whose proceedings he has made several notable contributions, being the recipient of two of its awards.

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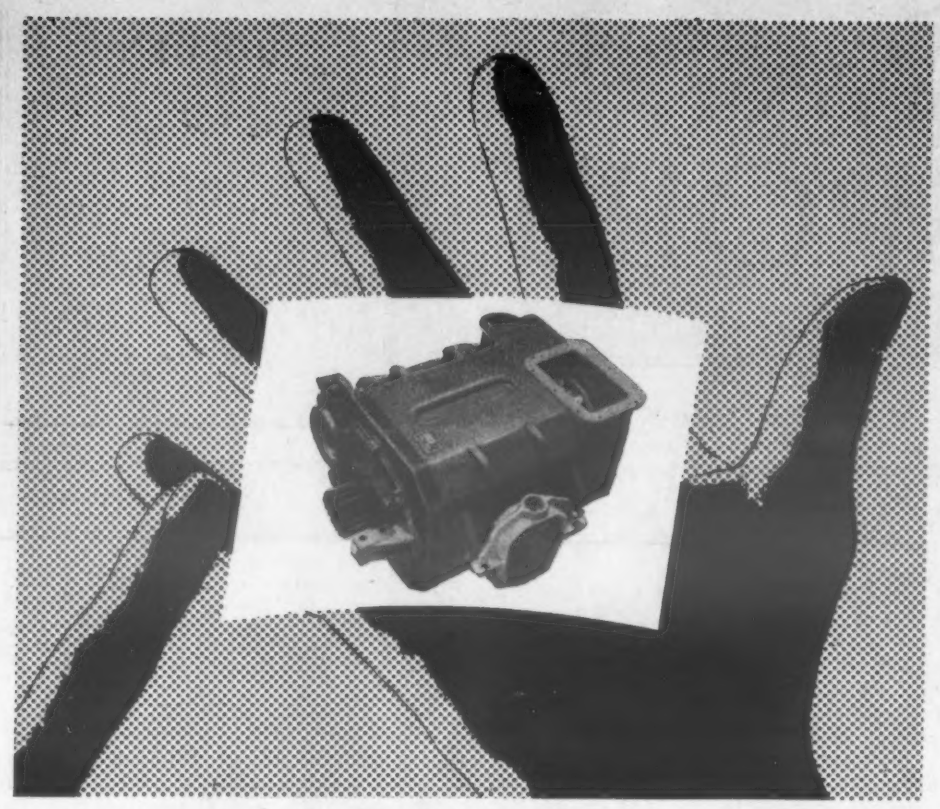

4 regions . . . 1 motor

Crompton Parkinson are building the electrical equipment for 93 new main line diesel locomotives: forty-five of 1550 h.p. for the Southern Region; twenty of 1160 h.p. for the Eastern and North Eastern Region; eighteen of 1160 h.p. for the Scottish Region; and ten of 2300 h.p. for the London Midland Region.

To make possible economies in future maintenance and the supply of spares, one design of traction motor is used throughout these various contracts; four per locomotive up to 1550 h.p., with six of each for the 2300 h.p. locomotives.

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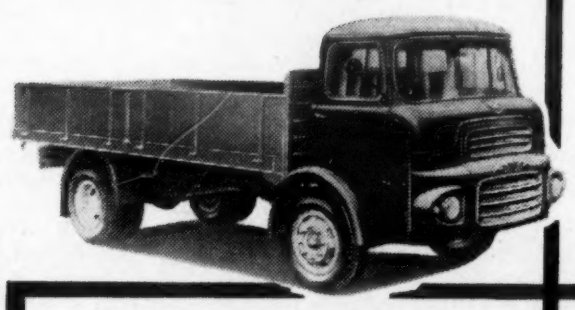
as standard
equipment
on the new
7 tonner



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MODERN TRANSPORT

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The Editor is prepared to consider contributions offered for publication in MODERN TRANSPORT, but intending contributors should first study the length and style of articles appearing in the paper and satisfy themselves that the topic with which they propose to deal is relevant to editorial requirements. In controversial subjects relating to all aspects of transport and traffic this newspaper offers a platform for independent comment and debate, its object being to encourage the provision of all forms of transport in the best interests of the community.

Some Reflections on the B.T.C. Report

THE future of nationalised British Transport depends upon the success of the railway modernisation plan, and it is reassuring to learn from its report of 1957, reviewed in our last issue, that despite what many may consider a disappointing year the British Transport Commission is confident that full implementation of the plan will restore financial equilibrium. There must be some grounds for this optimism in face of the fact that, of the £250 million authorised by Parliament as a loan to cover deficits for the years 1956-62, £118 million has already been used and only £132 million is left. After interest charges the sum the Commission is allowed to borrow in respect of the railway deficit less the surplus on other activities amounts to no less than £63.5 million for 1957. But Sir Brian Robertson, in an effort to present the report and accounts "in their fair and proper perspective," pointed out that because the period is one of reconstruction and modernisation the Commission, with the full approval of Parliament, is deliberately facing annual deficits. That for 1957 was expected to be higher than for 1956, but that it should be £10 million higher is regarded as disappointing. The Commission stands or falls on the fortunes of British Railways, and in view of present depressing experience in this and other countries people are beginning to question the value of railways in the transport system of a closely knit industrial economy such as ours. Nevertheless the Commission's chairman is reassured on this point when he contemplates the remarkable improvements which modernisation, and especially electrification, will bring about.

Towards Financial Equilibrium

"I FEEL no doubt," he says, "that our railways are well able to hold their place in this world of progress. I know, of course, that road transport will become an even more formidable competitor when the new roads are built. I know, too, that air transport has special attractions for certain classes of traffic, particularly on the cross-Channel routes. Even so, I believe that the railways will hold their own due to their special aptitude for profiting from all forms of scientific advancement." In this regard he pointed to the significant fact that, among the various means of land transport, railways are best adapted—and may be the only means really adaptable—for taking advantage of atomic energy, the future source of power. The commitment in the White Paper of 1956 to bring the accounts into balance by 1962 was dependent upon the fulfilment of certain general conditions which were therein defined. Sir Brian agreed that while several of these conditions have not been entirely and consistently fulfilled the financial results achieved so far fall somewhat below the expectations expressed in the White Paper. In these circumstances does the commitment still stand or must the Commission resign itself to a lower standard of achievement? His reply was that, whereas in regard to some matters outside the control of the Commission the assumptions made in the White Paper had not been entirely fulfilled, nothing had happened to falsify the assumptions made in regard to matters which are within its control. In particular, to the modest extent that the modernisation plan had as yet borne fruit the results had fully justified all expectations. Moreover the commitment was entered into seriously and deliberately to ensure good financial discipline throughout the organisation, and the fact that financial results at this early stage were somewhat below forecast afforded no justification for saying that the discipline was too hard and that there was any wish to be relieved of it.

Freedom Essential

THE Commission, however, will not—and cannot—achieve its objective unless it is allowed to conduct its affairs as a business concern: there should be no strings attached to Government encouragement. We have not yet reached the desperate stage, as in Eire, where the transport system has to be given a free hand to decide just what charges it shall make and what services it shall provide. But, sooner or later, we shall get to that point unless British Transport is left to get on with the job of making its undertaking pay. As a start there must be less interference with the pruning of uncommercial services and the closing of unremunerative lines and stations. Only thus can the interests of the whole community be served and subsidies avoided. The Commission is in a highly competitive industry and should not be expected to explain its every action and announce its every intention too far in advance. First and foremost it must have a contented staff, and it certainly has strained every effort to convince the unions of its desire to give proper reward for labour in face of economic difficulties. The attractions of employment in British Transport must be maintained and stimulated. Meanwhile it is satisfactory to note that in the necessary changes on the railways staff co-operation is increasing and that no step likely to affect conditions of employment is taken without consultation with the unions and the workers concerned. The Commission reports that its confidence in the general willingness of the railway staff to co-operate over the making of new arrangements for greater efficiency of working has been fully justified by progress with, for example, the further extension of work study and incentive bonus schemes and in the agreement reached with the unions for the manning of diesel and electric locomotives.

Traffic Depends Upon the Plan

EVERYTHING, of course, depends upon the speedy completion of the plan, and it was a mistake last year to reduce the tempo of railway capital expenditure under the "credit squeeze": the report makes frequent reference to the retarding effects of capital cuts. Already the introduction of new rolling stock and the more punctual and faster running due to the substitution of diesel for steam traction have had a beneficial effect on passenger revenue. Unfortunately, after benefiting from the fuel shortage earlier in the year, railway freight traffic declined in the last quarter of 1957 and there has since been a slackening of economic activity generally. With less freight available to public transport, competition for it has become intense and rates have been cut in consequence. It is believed that in this competitive situation the Commission's services by rail and road have held their own. But there has been increasing diversion to C-licensed transport, in which category the number of vehicles reached the million mark for the first time towards the end of 1957, an increase of about three times the prewar figure. The only answer to this remarkable development lies in competitive rates allied with improved and more reliable freight train services, which the plan is designed to provide. But this will take time. Modernisation of marshalling yards—27 new yards are being provided, 26 modified and 158 closed—is being "pressed forward with vigour," but the equally necessary reconstruction of goods stations, incorporating the latest handling equipment, has been slowed down by the capital restrictions. Nevertheless, £137 million, a third more than in 1956, was spent on the railways in 1957, and £25 million for diesel locomotives and rolling stock in 1958-59 has recently been restored from last year's cut. It is obvious from the report that the new capital for the railways is being made to pay and to this extent prospects are encouraging.

Forthcoming Events

July 9.—Light Railway Transport League. Paper by R. K. Crees and J. R. Cook, "Transport in East Berlin." At Fred Tallant Hall, N.W.1. 7 p.m.

July 19.—Permanent Way Institution. Visit to H.M. Dockyard, Chatham.

Railway and Canal Historical Society. Centenary visit to Netherton Tunnel by "Lady Hatherton." 12.30 p.m., with bus connection from Birmingham.

July 20.—Omnibus Society. Thames estuary tour, involving various forms of transport.

July 26.—Light Railway Transport League. Paper by R. B. Parr, "The Wemyss Tramways." At Fred Tallant Hall, N.W.1. 3 p.m.

September 1-7.—Society of British Aircraft Constructors. Flying display and exhibition. At Farnborough. (Public days September 5, 6 and 7.)

September 8-12.—Municipal Passenger Transport Association. Annual conference. At Blackpool.

September 26-October 4.—Commercial Motor Transport Exhibition. At Earls Court.

September 28-October 7.—International Railway Congress. At Madrid.

September 29.—Passenger Vehicle Operators Association. Annual dinner-dance. At Grosvenor House, London.

October 13-15.—Road Haulage Association. Annual conference. At Torquay.

November 5-16.—International Motor Show. At Turin.

CHIEFTAIN WITH CLAYMORE

Two New Albion Goods Vehicles Announced

UNIQUE DESIGN FEATURES OFFER ADVANTAGES

TWO new goods vehicles announced by Albion Motors, Limited, this week both embody design features which indicate that a close study has been made of operator requirements and which make them unique in their respective classes. Although retaining the name Chieftain, the 7-tonner is an entirely new vehicle; it provides maximum body space on an exceptionally manoeuvrable chassis and great comfort for the crew in a modern pressed-steel cab that is easier of access than that of any other British forward-control vertical-engined design. Another unique feature for chassis of this class is a new double-reduction rear axle that provides greater strength and durability with a saving of weight.

The 7-ton Chieftain leading the 5-ton underfloor-engined Claymore above Campsie Glen during our recent road test of these two new Albions

The new Claymore caters for a 5-ton payload and retains the features of underfloor positioning of the engine, easy-access forward-control three-man cab and maximum body length on short manoeuvrable chassis that have made the existing 4-ton Claymore so attractive for certain classes of delivery work. Both the vehicles are powered by well-proved Albion four-cylinder direct-injection diesel engines, which themselves have been the subject of detail modifications and are working well within their respective capacities, and both are designed and built to the traditional Albion standards of quality engineering.

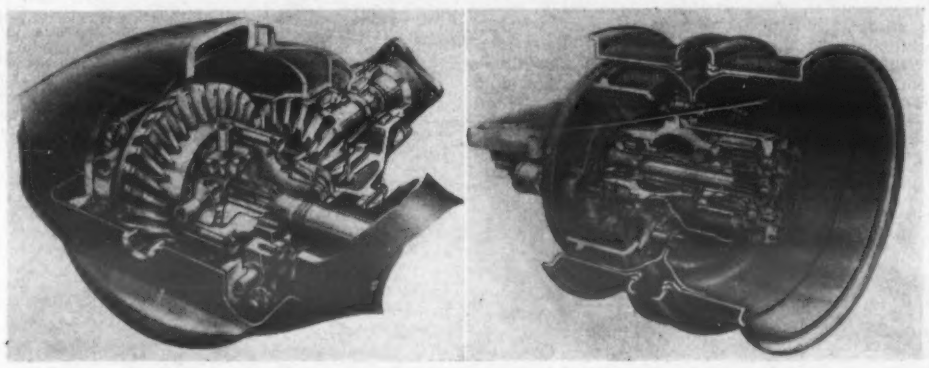
The New Chieftain

The new Albion Chieftain introduces a new basic layout into the British vertical-engine forward-control goods vehicle field that offers advantages in most types of operation and overcomes a major objection to forward-control vehicles—difficulty in entering and leaving the cab. By projecting the cab well forward of the front axle, entry is made directly from ground level to the first of two easy steps, the second of which is the main cab floor. With the cab position thus advanced and by making full use of the permitted rear overhang, it has been possible to accommodate popular sizes of body on shorter-than-usual wheelbase lengths and achieve ideal weight distribution between front and rear axles. In fact, the CH3N will take a 14-ft. long body and has a wheelbase of 10 ft. 3 in. with a turning circle of only 39 ft.; the CH3L, with a wheelbase of 12 ft. and turning circle of 45 ft. will take a 16 ft. 6 in. body; the CH3XL has a 13 ft. 6 in. wheelbase and 51-ft. turning circle; and the CH3T will take a 5 cu. yd. tipping body on 8 ft. 6 in. wheelbase with a 36-ft. turning circle.

The chassis is sold complete with the cab, which has been developed specially by Motor Panels (Coventry), Limited, to Albion design. The cab is a welded pressed-steel structure with one-piece curved windscreen having an area of 1,512 sq. in., three rear windows and winding full-drop windows and swivelling quarter lights in the doors. Further ventilation is provided by two flaps in the front panel and an optional fresh-air heater-demister unit. The floor assembly includes the engine cover, which has a clip-on top centre section and bolted-on side panels and is sprayed on the inside with sound-insulating material. The whole of the underside of the cab and integral front wings is given weather-sealing treatment. The radiator grille panel is quickly removable and is large enough to permit withdrawal of the engine through the aperture with the right lifting tackle, thus avoiding the need for removing the cab for major attention.

This facility notwithstanding, the cab itself is also quickly removable when necessary. It is based on a rigid subframe of box-section pressings flexibly mounted on two widely spaced rear mountings and two front fixings set close together, forming virtually a three-point mounting. Cab furnishing is in accord with the best modern standards and includes a fully adjustable driver's seat, thick rubber mats on the floor, conveniently placed controls, easy-to-read instruments grouped in a central panel flanked by large cubby holes, two rear-view mirrors, two electric windscreen wipers and interior roof light. Optional equipment includes built-in radio, flashing direction indicators and windscreen washers.

The chassis frame sidemembers are pressed-steel channel sections 8$\frac{7}{16}$ in. by 2$\frac{1}{2}$ in., $\frac{7}{16}$ in. thick for the three shortest chassis and $\frac{1}{2}$ in. thick for the long-wheelbase CH3XL, braced with staytubes and pressed-steel crossmembers and assembled with fitted high-tensile steel bolts in traditional Albion manner. The frame stresses are reduced by linking up wherever possible the spring hanger brackets with the crossmembers. The two shortest chassis are both suitable for tippers and the frames are generously flitch-plated. Particular attention has been paid to suspension and the four longitudinal laminated semi-elliptic springs are no less than 54 in. long, 3 in. wide at the front and 3$\frac{1}{2}$ in. wide at the rear, and Armstrong double-acting telescopic dampers are fitted at the front. Marles cam-and-double-roller steering gear has a ratio of 24.7 to 1 and a noteworthy point about the front axle is the enclosure of the large-area steel-phosphor bronze kingpin thrust bearings in housings which form lubricant reservoirs.



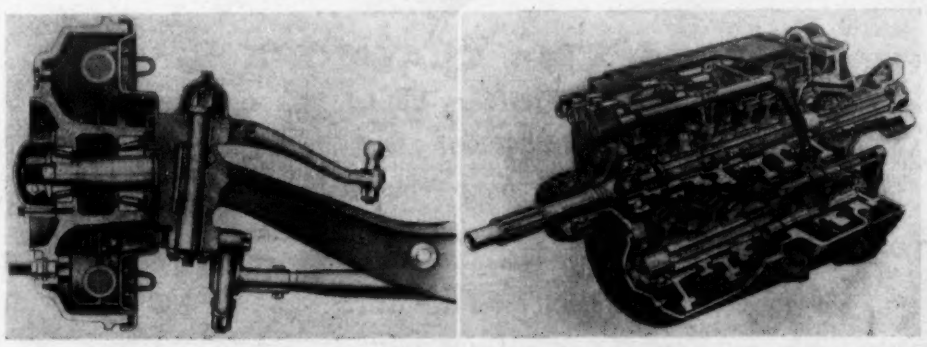
The bevel and differential gears and, right, the compact hub gears in the Chieftain axle

The new Chieftain makes a decisive break with Albion tradition by employing a double-reduction rear axle instead of a worm-drive unit. The advantages of obtaining the axle reduction in two stages instead of one are well known. The smaller reduction in the right-angled drive permits the use of a much larger bevel pinion, well supported on a substantial shaft in generous bearings, and the smaller crown wheel can be more robust. Another important advantage is that the axle shafts are much more lightly stressed.

Albion Design

In the Albion design, a pressed-steel casing, 4$\frac{1}{2}$ in. in diameter at the spring seats, is formed into a central banjo housing having its greater dimension vertical to give great beam strength. The right-angle drive is a spiral-bevel gear with bevel supported in large tapered roller bearings. A range of bevel sizes provides various overall ratios to suit different operating requirements. The epicyclic

(*Continued on page* 10)



Front axle showing oil reservoir over the steel-bronze king pin thrust bearing, and, right, cutaway view of the Albion overdrive six-speed constant-mesh gearbox

ESC DROP FORGINGS

Chosen by Albion for their new CLAYMORE and CHIEFTAIN models

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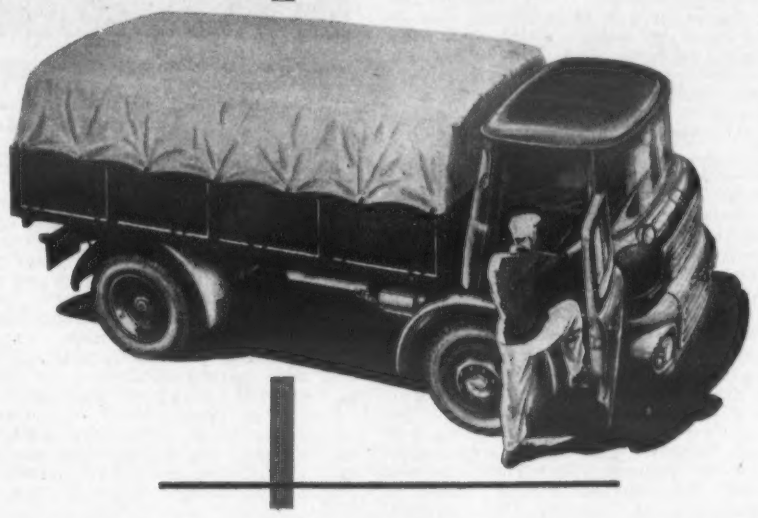

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Then we put on our brakes . . .
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a **Scottish** triumph. So why not make a song
and dance about it on the appropriate
instrument? Perhaps we may add a
small jig on our own account as the
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LORRY—BUS—COACH

Bus Profits and Replacement Costs

SOUTH Wales local authorities were last week engaging in a favourite sport—taking a swipe at area bus undertakings. Fourteen authorities appealed against a decision of the South Wales area Traffic Commissioners last September to authorise certain fare increases, and an inquiry presided over by Sir Maurice Holmes occupied five days, closing on Thursday, June 27. Mr. F. A. Stockdale, appearing for the six operators concerned, said that local authorities who accused them of under-estimating their revenue and of making excessive profits had failed to consider profits as a percentage of the capital employed. They had contended that where the actual profit exceeded the estimates, no fares increases should be granted. But bus companies were commercial enterprises and should not be treated as though they earned a standard revenue.

The companies had not "feathered their nests," as had been charged, from fares increases based on wrong estimates. These were very damaging allegations. In fact the figures showed that the yields and dividends of the companies, in relation to the capital employed in their business, had been no more than modest for commercial enterprises. Differences between previous estimates and various items of revenue and expenditure did not make those estimates wrong. Conditions had changed.

For objectors, Mr. Alun Davies submitted that the Western Welsh company had ordered 20 of an improved type of bus, the estimated cost of which would be £5,800 each. On the basis of this order, he alleged, it now claimed that replacement value of all its existing double-deck buses should be taken at £5,800 each. This, he declared, was open to serious objections. It was inequitable that bus users should be asked to bear the cost of improved types of vehicles which did not, in fact, exist and which they did not therefore enjoy.

Review of School Bus Controversy

A LETTER has gone out from the South Eastern area Traffic Commissioners to Kent county educational authorities, asking them to arrange a further meeting with the Maidstone and District Motor Services, Limited, over matters arising from the Westwell—Ashford school bus controversy.

Tribunal May Rehear Trimdon Case

THE Northern area Traffic Commissioners at a sitting at Newcastle upon Tyne last Friday adjourned the hearing of complaints that Trimdon Motor Services, Limited, Trimdon Grange, Co. Durham, was not adhering to the conditions of its road service licences. The company was called upon to show why its licences should not be revoked or suspended. For more than a week a number of its bus drivers and conductors have been on strike against the dismissal of two employees, who are also union officials, who were alleged to have been drinking in a public house before going on duty. Mr. T. H. Campbell Wardlaw, for the company, suggested that the Traffic Commissioners were being unwittingly drawn into the political arena by the Transport and General Workers' Union.

Two days after the strike started the union complained to the Commissioners that the company was in breach of its licence. Drivers and conductors had always been paid in accordance with a local agreement. The company adopted terms laid down by the National Council for the Omnibus Industry in 1957, but the employees asked for a return to the local agreement which, they said, was more favourable. There was a difference of opinion over the rates of wages paid to conductresses. It appeared that United Automobile Services, Limited and Durham District Services, Limited, had an agreement with the Transport and General Workers Union whereby conductresses received a lower rate than men conductors.

Mr. Wardlaw stated that this differentiation had not been made clear when the Industrial Disputes Tribunal held an inquiry into the Trimdon wage rates some months ago. Mr. Wardlaw said he had been in touch with the Tribunal and it was prepared to hear the case all over again. The Tribunal finding was that the Trimdon conductresses should receive the same rates as men. Mr. H. Blyth, regional secretary of the union, said that there were other matters in dispute; the company was not operating a 44-hour guaranteed week and spreadover payments. Mr. J. A. T. Hanlon, chairman of the Commissioners, adjourned the hearing until a report was received from the Ministry of Labour whether an order of the Industrial Disputes Tribunal had the effect of an award by the Industrial Court.

End of St. Helens Trolleybuses

CHOOSING Monday, June 30 (presumably because it was the end of a taxation period) St. Helens Corporation Transport has now withdrawn the last of its trolleybuses after 31 years of this form of operation in the town. Trolleybuses were chosen to replace trams until the last tram ran in 1936. The highest number of trolleybuses owned was 61 in 1951, but the previous year it had been decided to convert the trolleybus routes to bus operation. Eight B.U.T. vehicles have been sold to Bradford City Transport and eight Sunbeams to South Shields Corporation Transport Department. In the year ended March 31, 1958, the trolleybuses showed a gross surplus of £23,354 and the buses £48,753. The net surplus on the undertaking was £7,700.

Extension of Lincoln Boundary

NOTIFICATION has reached Lincoln City Council from the Minister of Housing and Local Government, Mr. Henry Brooke, that it will be required to obtain the consent of the Traffic Commissioners to any proposal to extend further the Corporation bus services into or within a new area to be transferred to the City of Lincoln. The Minister has decided that 1,300 acres between Prial Drain and the catchwater drain north-east of Skellingthorpe Road shall be included within the city boundary. A joint application was submitted by Lincoln Council and Kesteven County Council last September.

Studded Birmabright treadplate is used in an insulated meat body manufactured by Drew Brothers (Frampton Cotterell), Limited. This treadplate is radiused at the sides with resultant elimination of the "blood trap." Right, a 3-ton Austin van operated by B.R.S. (Contracts), Limited, for a London pharmaceutical manufacturer

Inter-Union Plastics Work Dispute

EMPLOYERS and trade unions should jointly convene a national conference on the demarcation dispute between workers in the motor vehicle building industry, as to which class of craftsman should fit and fix plastics panels. A resolution to this effect was unanimously adopted by the annual conference of the National Employers' Association of Vehicle Builders, which met at Scarborough from June 23 to 26. The resolution asks the employers' United Kingdom Joint Wages Board, representing the N.E.A.V.B., the National Federation of Vehicle Trades and the Scottish National Vehicle Builders' Association, to seek a conference with the National Union of Vehicle Builders and the National Union of Sheet Metal Workers, aiming at an agreement on allocation of the work as between members of these trade unions. The suggestion for a settlement was along the lines which the N.E.A.V.B. has already recommended to its members—that the work be allocated in accordance with local shop custom and practice. From Manchester, Mr. A. Lomas said that repeatedly he and other directors had personally fitted plastic panels on vehicles at weekends because of the employees' disagreement as to who should do the job. A provisional settlement reached recently, pending inter-union talks, had prevented 50 employees in various categories from being laid off because of the adverse effect on business caused by the dispute.

It was also reported at the conference that although discussions have been taking place since 1956, when they were reopened after a break of five years, the employers and trade unions have still not reached agreement on a national scheme for the training of apprentices in the vehicle building industry. Union representatives objected to the clause giving an employer the right to terminate an apprenticeship for wilful disobedience, neglect of duty or incompetence. They asked for another clause to be altered so as to allow the apprentice to attend school on one day per week up to the age of 21, instead of 18, and they took exception to a provision making it compulsory for apprentices to attend evening classes as part of their training. Arguing that such compulsion was impossible, they suggested that attendance should be merely recommended. The unions further suggested (and the employers agreed) that as the training scheme was intended to cover apprentices under written agreement, no recommendation ought to be made concerning other young workers in the industry.

Bus and Coach Developments

Direct Coaches (Birmingham), Small Heath, applies for the licences of Thomas Perry.

Smith's Eagle Coachways, Limited, Trench, Wellington, seeks the licences of Thomas George Smith.

D. Macdonald, Inverasdale, proposes to withdraw his service thence to Poolewe (P.O.).

Beveridge's Motor Service (D. A. Robertson), Frenchie, seeks to withdraw its Kettlebridge—Newburgh service.

Cadzow Brothers, Luing, seeks the Toberonochy—South Cuan Ferry service of John Brown.

Sylvia Coaches, Limited, seeks works express services licensed to John Butlin, Limited, Birmingham.

Tetbury Passenger Transport Co., Limited, proposes to take over the excursions and tours from Eastville, Bristol, of J. G. Nicholas.

Amport and District Motor Services (A. H. Razey), Thruxton, applies for the excursions and tours from Andover of A. J. Hiscock.

East Yorkshire Motor Services, Limited, seeks withdrawal of the limited stop conditions on Saturday on its services operating into Hull.

H. Webster, Pattishall, Towcester, applies for the Greatworth—Northampton and Helmdon—Banbury services of S. Walters, together with his excursions and tours from Helmdon and other licences.

Western S.M.T. Co., Limited, applies for an Eaglesham—Newton Mearns service via Mearnskirk. If granted, the Monday to Friday service between Eaglesham and Ayr would be withdrawn.

Burton-upon-Trent Corporation proposes a Saturday service between Wetmore Bridge (Derby Road) and Tennyson Road (Chesterton Road). If granted all Saturday journeys save one would be withdrawn on the Anglesey Road—Wetmore Bridge route.

Grimsby-Cleethorpes Transport Joint Committee proposes a new service in Grimsby between Grange Estate (Cambridge Road) and Ladysmith Road Estate (Whitby Drive) via Cromer Avenue, Worcester Road, Bargate, Church Lane and Ladysmith Road.

C. G. Hill and Sons (Tredegar), Limited, applies for a service between Cefn Golau (Gainsborough Avenue) and Waundeg via Attlee Way, Queen Street, Circle, Sirhowy Bridge, Scwrfa and White Lion. It would replace existing services from Circle to Attlee Way and to Scwrfa.

A combined road and rail anywhere ticket which London Transport is calling a Twin Rover comes into use today (July 5). As indicated in MODERN TRANSPORT of May 31, it costs 8s. 6d. and is available on all central bus and trolleybus routes and on London Underground routes. As regards the latter they may not be used north of Rickmansworth on the Metropolitan Line. It is available on Saturdays, Sundays and bank holidays.

Prices down... Values up... Payload up...

TWO NEW Albion

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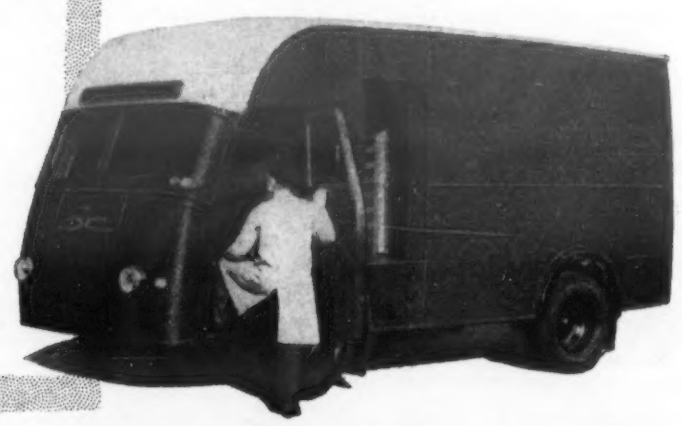
at QUANTITY PRICES



The transport news of the year! Albion's famous CHIEFTAINS and CLAYMORES are now available in entirely new designs and COST LESS than ever.
Big 4-cylinder diesel engines, de-rated for maximum economy and long life, give greater output with lower fuel consumption. Entirely re-designed cabs set new standards in driver comfort and control giving more room, panoramic visibility and easy step-in access only a few inches from ground level.
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4-5 Ton CLAYMORE
Delivery Vehicle

★ *Driver's cab to seat 3 with low step-in.*
★ *Underfloor 70 h.p. horizontal engine.*
★ *Maximum body space with minimum overall length.*
★ *New spiral bevel rear axle.*

7 Ton CHIEFTAIN

★ *Extra roomy cab with low step-in and all round visibility.*
★ *5 or 6-speed gearbox with helical gears.*
★ *Spiral bevel rear axle with hub reduction gears.*
★ *100 h.p. 5.5 litre engine de-rated to 90 h.p. for extra economy and reliability.*

MODELS AVAILABLE FOR DEMONSTRATION THROUGHOUT THE COUNTRY

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B.T.C. INSTALLS ANALOGUE COMPUTER

For Revising B.R. Timetables

BESIDES the work done by the railway regions on computer-compiled timetables, the British Transport Commission has installed an analogue computer in the office of the chief electrical engineer, British Railways Central Staff, to provide advance details of train performance with the new forms of motive power which are being introduced under the railway modernisation programme. This information will be used to compile revised timetables, designed for the maximum utilisation of electric and diesel-powered locomotives and trains.

Computed Performance

To prepare schedules in readiness for the large-scale introduction of the new forms of motive power, the performance of the locomotives or multiple-unit trains over individual routes must be known well before they enter service and, with the aid of the computer, this information can be obtained while the equipment is still in the design stage.

The analogue computer can rapidly produce a record showing the speed at which a type of locomotive hauling a given load, or a multiple-unit train, may be expected to be travelling at every point en route, the distance travelled, and the time taken to complete any part of its journey, taking into account time taken in periods of braking and accelerating, through speed restrictions, and during stops at stations. From this information it is a simple matter to build up freight and passenger train timetables.

Temperatures Anticipated

In the case of electric locomotives and trains, the computer can also provide details of the current consumed and an indication of the temperature which is likely to be attained by the electric motors in performing the whole or part of their work. Traction motor temperature is of particular value to the designer of the equipment as it enables the design of the traction motors to be matched to the duties required. Details of the current consumed by the electric traction motors of the locomotive or multiple-unit train in performing a particular run are of importance to the railway electrical engineer as, when this information is expressed in terms of all the trains covering a section of the line, an accurate assessment of demands can be made.

The analogue computer is of the type which uses electrical voltages to represent the physical quantities concerned—accelerating and decelerating effort, speed, time and distance. The computer was developed and built under the direction of Professor E. Bradshaw, of Manchester University, in association with the chief electrical engineer, British Railways Central Staff.

Moving a County Council

UNUSUAL TASK FOR BRITISH RAILWAYS

RECENTLY the London Midland Region of British Railways carried out its largest road removal job—the transfer of the whole of the contents of the Derbyshire County Council headquarters offices from Derby to Matlock. The transfer was necessary to overcome the council's accommodation difficulties in Derby and Smedleys hydropathic establishment in Matlock had been purchased by it for that purpose.

Tenders were invited for the removal of all the furniture, records and files from Derby to Matlock, within strict time limits, and British Railways tender by throughout road transport was accepted. The contents of some 250 offices, including 851 filing cabinets, 12 safes, a number of delicate calculating machines, 1,861 chairs and desks and thousands of files and records had to be transferred within five weeks. Handling of these items inside the buildings was done by county council staff under the guidance of expert packers supplied by Pickfords. British Railways staff loaded and unloaded the road vehicles, with the exception of certain heavy safes and accounting machines for which the services of Pickfords heavy haulage section were utilised.

Minimum of Disturbance

Four 8-ton diesel-engined tractors were used on a shuttle service, employing BK containers mounted on 20 low-loading trailers. The tractors ran to a timetable each making three round trips per day. A thousand teachests were provided by the railway for packing up office files, records and other small items. It was imperative that the minimum disturbance to the council's service to the public should be caused, and the aim was that as each office closed down at Derby it should be reopened at Matlock within two days. In most cases the offices were operating normally at Matlock the day after closing down at Derby.

The most severe test came during the Easter holiday, when the treasurer's department had to be transferred between the time the offices closed at Derby on Thursday afternoon and its reopening at Matlock at 9 a.m. the following Wednesday. This part of the removal, involving 42 cartage loads, was completed with a day to spare. Similarly, when the local taxation offices closed at 5 p.m. on Friday, April 18, they required to be open at Matlock for the issue of driving licences and the like at 9 a.m. on Monday, April 21. In this case 25 loads, including some very long counters, were dealt with well within the scheduled time.

Adaptability of Staff

The smooth working of this complicated operation was due, to a very large degree, to the willingness and adaptability of the staff engaged on it. As was the case with the county council staff, the experience of the railway staff on this particular type of work was limited. The fact that in a very short time the staff became really expert in handling furniture was felt to reflect great credit on them and on the supervisors who directed their operations —District Cartage Inspector T. E. Mayne, Foreman W. Parton (Derby) and Foreman G. Hardcastle (Matlock).

The road journey to Matlock along the busy A6 road, ending with a climb up a 1-in-6 gradient followed by very difficult turns into the Matlock premises, was not by any means an easy journey. No mishap of any kind took place and the motor drivers—A. Waddle and N. W. Winfield, of Derby St. Mary's, and W. Baugh and H. Goodall, of Matlock—covered between them some 12,000 miles. Arrangements for the removal were under the direction of the district commercial manager, Mr. W. B. Carter; and in charge of the planning and operation were Mr. N. E. Goodhead, British Railways district cartage clerk, and Mr. T. Nicholls, county ambulance officer for Derbyshire County Council.

The whole move, known locally as "Operation Transfer," required 277 road journeys and was completed three days ahead of timetable. At the quarterly meeting of the county council, held in the new offices in May, the chairman of the council said, "British Railways personnel did a magnificent job."

GOVERNMENT AND B.T.C.

N.U.R. Secretary's Criticism

MR. S. F. GREENE, general secretary of the National Union of Railwaymen, in his report to the union's annual conference, which opens at Exmouth on July 7, criticises the Government's attitude to the British Transport Commission. The Government, he asserts, was largely responsible for the financial position of the Commission "by their interference with the Commission's conduct of its business, by their economic policies which inevitably resulted in higher costs and a contraction of national production the Government created conditions in which it is almost impossible for the Commission to achieve solvency."

The circumstances surrounding the London bus strike—the opposition to the railwaymen's own wage claim—all clearly indicated the Government's intention to depress living standards. As to the recent railway pay dispute, the alternative facing the union was clear—to accept the offer of 3 per cent and a later review of salaries and wages, or to call all members out on strike. After the most careful consideration of the matter the executive committee decided to accept the offer as the maximum to be obtained under existing conditions. He called for a speeding-up of the modernisation plan whereby the railways would benefit sooner.

Follsain Wycliffe Foundries, Limited, has appointed agents in South Africa and the Rhodesias, H. Incledon and Co. (South Africa), Limited, P.O. Box 3620, Johannesburg, acts for South Africa, J. L. Curtis, Limited, P.O. Box 140, Ndola, for Northern Rhodesia (except Livingstone) and Mine-Elect (Pvt.), Limited, P.O. Box 316, Bulawayo, for Southern Rhodesia and Livingstone. They will handle all Follsain Wycliffe products, consisting of castings in blackheart malleable iron, in CY abrasion-resisting alloy and in heat- and wear-resisting alloys, in addition to the Pulmac range of pulverisers.

B.T.C. TRAFFIC RECEIPTS: PERIOD NO. 6—1958

	Four weeks to June 15, 1958			Aggregate for 24 weeks		
	1958	1957	+ or —	1958	1957	+ or —
	(£ thousands)			(£ thousands)		
PASSENGERS						
British Railways	12,242	11,614	+ 628	57,387	59,600	— 2,213
London Transport Railways	2,237	1,716	+ 521	11,390	10,896	+ 494
Road services	—	4,653	— 4,653	19,863	27,719	— 7,856
Provincial and Scottish Buses	4,875	4,831	+ 44	25,624	26,406	— 782
Ships	593	614	— 21	2,050	2,012	+ 38
Total Passengers	19,947	23,428	— 3,481	116,314	126,633	— 10,319
FREIGHT, PARCELS AND MAILS						
British Railways						
Merchandise and livestock	6,812	7,747	— 935	44,537	52,335	— 7,798
Minerals	3,203	3,832	— 629	22,562	25,037	— 2,475
Coal and coke	9,223	9,380	— 157	61,679	60,230	+ 1,449
Parcels, etc., by passenger train	3,933	3,823	+ 110	23,649	23,033	+ 616
Collection and delivery, etc.	959	1,012	— 53	5,780	6,309	— 529
Total Freight, British Railways	24,130	25,794	— 1,664	158,207	166,944	— 8,737
Others	4,220	4,213	+ 7	24,979	25,152	— 173
Total Freight, Parcels and Mails	28,350	30,007	— 1,657	183,186	192,096	— 8,910
Aggregate	48,297	53,435	— 5,138	299,500	318,729	— 19,229

Comparisons are affected by increases in rates which have been authorised from time to time, by the London Transport road services strike from May 5 to June 20, 1958, and by the restrictions in oil supplies which operated from November 7, 1956, to May 14, 1957

SGE

UNDERCOVER STORY

This is the interior of the Type HA Separate Point Machine specially arranged for Hand Generator operation—a fine example of British design and engineering skill. The machine is operated by our Type HR Hand Generator, both products being fully described in our Catalogue, Section H.

The Type HA Machine is also available for use on 110 volts A.C. or 110 or 30 volts D.C. It can be supplied for special high speed operation of points in hump yards.

Another interesting application is the 'sequential operation' facility which may be used for C.T.C. or remote locations where power supplies are limited; it provides that where a point layout requiring two machines is used, they may be arranged to operate one after the other, thus limiting the current drain on a small capacity battery to one machine at a time.

With improvements and additions the fundamental design of this machine has been proved over nearly 50 years and Signal Engineers may continue to install the Type HA with every confidence.

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HORIZONTAL DIESEL ENGINES
300-450 b.h.p.

The Paxman ZH represents one of the few serious attempts to produce a high-powered diesel engine for railcar underfloor mounted installations. These power units will fit conveniently below the floor of any standard loading gauge, and all parts needing attention of any kind, between overhauls, can be reached from the side at rail level. No access need be arranged from the inside of the car. Outstanding reliability has been proved by endurance tests running into several thousand hours, and also some 16 months of high-speed trials on service routes chosen for the severe gradient and adverse conditions encountered.

Paxman horizontal diesel engines are fully described in Publication 1528

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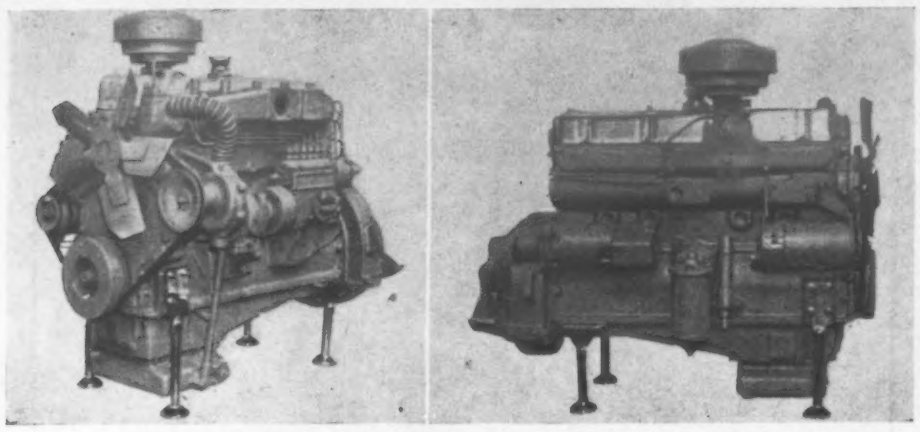
J.45

NEW PERKINS ENGINE

F340 Diesel Unit for American Ford

LATEST sales feat of F. Perkins, Limited, the Peterborough diesel engine company, which has engines working in no fewer than 143 countries, is a contract to supply a specially developed 340 cu. in. diesel engine for installation as original equipment in the new American Ford F600 commercial vehicle. The Ford F600 has a standard wheelbase of 154 in. and gross weight rating of up to 19,500 lb. and is supplied with a wide range of van and lorry bodies by various bodybuilders. The Perkins engine will be fitted to the American-built chassis at the various Ford Motor Company assembly plants throughout the world and will be available from all Ford sales establishments outside the United States.



Two views of the Perkins 340 cu. in. diesel engine developed for initial installation in American Ford F600 chassis

Designated F340, the new engine has the same basic dimensions as the R6, with a bore of 4 in. (101.6 mm.) and stroke of 4½ in. (114.3 mm.) giving a cubic capacity of 339.3 cu. in. (5.56 litres). It is set to develop 110 b.h.p. at 2,850 r.p.m. and maximum torque of 240 lb./ft. at 1,700 r.p.m. from a compression ratio of 17.5 to 1. Among the salient features of the engine are a large-capacity fuel-injection pump, automatic injection timing, automatic tensioner and stabilisers for the timing chain, a large-capacity coolant pump and automatic adjustment of fuel feed to suit operation at varying altitudes.

The F340 cylinder block of high-duty cast iron is integral with the crankcase and is equipped with renewable dry-type liners. The water jackets are carried down the full length of the cylinders. The cylinder head of similar material carries the valve rocker gear, enclosed in a die-cast aluminium cover, and has iron-alloy exhaust-valve inserts. Inlet valves are of chromium steel with flame-hardened stem ends and the steel exhaust valves have stellited stem tips. There are two springs per valve and these embody damping coils to reduce surge at high speed and seat on hardened steel pressings on the cylinder head and hardened caps and split conical cotters. Spherical combustion chambers are half formed in the cylinder-head casting and half by detachable steel caps located in the block and are connected to the cylinder by a machined tapered throat.

Protected Working Faces

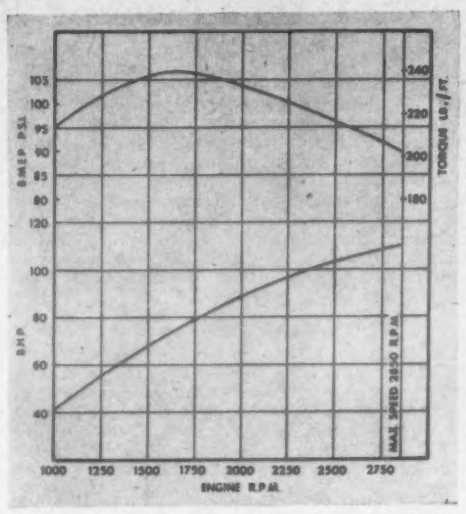
Pistons of high-silicon aluminium alloy are each fitted with three compression (the middle one chromium plated) and two oil-control rings and work on fully floating gudgeon pins that are retained in the piston by circlips. The forged chrome molybdenum steel crankshaft has integral balance weights and the seven main and six big-end bearings are of the steel-backed lead bronze-lined type. A vibration damper is fitted externally on the crankshaft pulley. The cast-iron camshaft has chill-hardened cams with profiles designed to give parabolic acceleration and operates the valves through steel tappets and adjustable rockers having all working faces hardened.

The camshaft and fuel pump are driven from the front end of the crankshaft by a keyed steel sprocket and triple-roller chain. The camshaft sprocket is adjustable to permit fine camshaft adjustment. The timing chain is provided with a S.C.D. slipper-type hydraulic tensioner, which gets its pressure from the engine lubrication system and four nylon reaction pads to control chain whip and reduce noise. The timing case is enclosed by a die-cast aluminium cover, which embodies a leaf spring to control camshaft end float.

Automatic Injection Timing

An AA-series C.A.V. in-line fuel-injection pump incorporates a pneumatic governor and also an automatic altitude control on the fuel rack. Operated by barometric pressure variation, the altitude control restricts the maximum amount of fuel delivered to that which can be burned completely in the supply of air available, thus preventing excessive exhaust-gas temperature, objectionable smoke and waste of fuel when working at high altitude. To provide fuel injection at the optimum point over the wide speed range of the engine, an automatic timing mechanism is incorporated in the injection-pump coupling. The pump is fitted with a mechanical lift pump, with filter on the suction side and a hand primer, and accessible injectors provide two sprays—one into the combustion chamber and the other into the cylinder. The fuel system is protected by a C.A.V. paper-element filter.

A conventional wet-sump lubrication system gets its pressure from a crankshaft-driven gear-type pump and includes a gauze pump-intake strainer and by-pass filter. A gauze strainer is also fitted in the oil filler pipe. The cooling system employs a large-capacity belt-driven water pump of new design bolted to the side of the cylinder block which delivers through a cast gallery, also bolted to the side of the block, and cored holes under the exhaust ports and combustion chambers. Circulation through the cylinder water jackets is partly by thermo syphon and partly by pressure and the pressure circulation is controlled by a thermostat.



Typical performance curves of the Perkins F340 diesel engine

Auxiliaries include a heater plug and fuel injector in the induction manifold, with a hand-operated priming pump for siting conveniently in the cab, to assist cold starting, and 12-volt electrical equipment.

IN PARLIAMENT

Branch Lines Again

THERE was a House of Common debate on June 23 on a motion by LORD HINCHINGBROOKE concerning branch lines. He commenced by saying that he was not opposed to the B.T.C. closing branch lines—the quicker economies were produced the better. He continued nevertheless with a time-honoured proposal for light railcars with driver-conductors and concluded with a most interesting observation: "there is a concern already in existence, which has been in existence for a long time, called the Society for the Reinvigoration of Unremunerative Branch Lines in the United Kingdom. It has notepaper and it is an intact organisation. If the Minister of Transport could only decide that there is a future in these lines then I think that organisations such as that could infuse the Transport Commission with their enthusiasm and produce a policy."

The B.T.C. had already ordered 22 railbuses, said the Joint Parliamentary Secretary, MR. G. R. H. NUGENT. They cost about £12,500 each. Travelling on a railway line was very hard for a vehicle: the steel wheel on the steel rail called for a very heavy construction of vehicle and inevitably made it a far more expensive proposition than a road vehicle with similar capacity. The alternative of conversion to a light railway had a very limited application. The line had to be reduced to no more than a tramway, and it certainly would not be possible for a vehicle to travel at anything like 30 to 40 m.p.h. Indeed, it was very difficult to conceive of a service which would qualify under these Acts which would really meet the needs of modern transport. The scope was very limited.

No Offers for Branch Lines

Alternative solutions included selling the line as a going concern. No one had yet purchased one. In the Isle of Wight a private company was formed in 1955 to purchase branch lines in the Isle of Wight but in the event no proposition appeared to acquire these lines which the British Transport Commission could seriously consider. The same comment applied to the Welshpool—Llanfair line. The light gauge railway there was closed in 1956, and although there was again talk about it, no firm and reasonable proposition had been made to the B.T.C. If branch lines were abandoned the problem of what to do with the trackbed was a serious one. There were really no uses for it.

B.T.C. Fares Position

The Minister of Transport, MR. H. WATKINSON, made clear the effect of recent discussions which he has had with the chairman of the B.T.C. He was not going to give the Commission any directions. The B.T.C. chairman had told him on May 2 that there was not at present scope for obtaining a large increase in receipts by raising fares. The Commission intended to find the bulk of the cost of current wage increases in London, as on British Railways, from economies in working expenses. It was not proposed to make any fare increases in London in the near future except, as had already been announced, by raising some scattered sub-standard fares. The intention to make limited increases on certain railway passenger fares also applies to London, where specially heavy costs arise in providing services for peak traffic. The Commission at present has no authority to raise fares as its present powers are exhausted. It intends to apply to the Transport Tribunal for the necessary headroom later in the year.

TENDERS INVITED

THE following items are extracted from the Board of Trade Special Register Service of Information. Inquiries should be addressed, quoting reference number where given, to the Export Services Branch, Board of Trade, Lacon House, Theobalds Road, London, W.C.1.

July 15—Burma.—State Timber Board for four TIMBER-HAULAGE LORRIES and TRAILERS (photocopies 2s. per set), three four-wheel-drive open UTILITY TRUCKS and TRAILERS and one WORKSHOP LORRY (photocopy 2s.). Photocopies of tender documents from Export Services Branch, B.o.T. Tenders to The Chairman, State Timber Board, Government Timber Depot, Ahlone, Rangoon. (ESB/14095/58.)

July 16—Formosa.—International Co-operation Administration for eight 1¼-ton PICK-UP TRUCKS, two ½-ton PICK-UP TRUCKS, one 6-by-4 22,000-lb. g.v.w. LORRY with cab and rear mounted winch and one ROAD TRACTOR and 20-ton TRAILER, all petrol-engined. Tenders to the Central Trust of China, Purchasing Department, 68 Yen Ping Nan Road, Taipei, Taiwan. (ESB/15036/58/ICA.)

July 16—Vietnam.—International Co-operation Administration for 10 two-cylinder 20-22 b.h.p. at 1,000 r.p.m. MARINE DIESEL ENGINES with hand and air starting. Tenders to the Central Purchasing Authority, P.O. Box 280, Saigon, Vietnam. (ESB/15668/58/ICA.)

July 16—Vietnam.—International Co-operation Administration for about 260 COMMERCIAL VEHICLES from ½-ton to 2-ton capacity. Tender documents from the Vietnamese Embassy, 12 Victoria Road, London, W.8, quoting Invitation No. 345-25058.

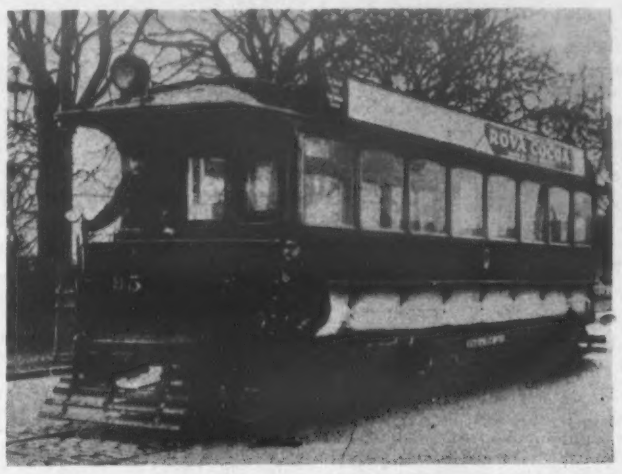
GOLDEN JUBILEE IN THE POTTERIES

P.M.T. Was Founded in 1898

ANNIVERSARY LUNCHEON

SINCE the Potteries Electric Traction Co., Limited, was first registered on June 28, 1898, 60 years have elapsed and the golden jubilee of the undertaking, known for the past quarter century as the Potteries Motor Traction Co., Limited, was celebrated by a luncheon in Stoke-on-Trent on June 27, and by the staging of an exhibition of buses, their components and the equipment that goes to the operation of a bus service in the Woodhouse Street headquarters garage in Stoke; this has been opened to the public this week.

The Stoke area has enjoyed public street transport since the days of George Francis Train, the American who developed a number of horse tramways in this country and claimed the one at Birkenhead to be the "first street railway in Europe," notwithstanding that Loubat's tramway had operated in Paris eight years earlier and that the development of a similar principle of a combined rail and road vehicle by William Joseph Curtis had been carried out in England and demonstrated across the Mersey in Liverpool in 1859 by the operation of at least six vehicles on lines used also for freight traffic by the Mersey Docks and Harbour Board.



One of the Potteries Electric Traction bogie cars on the Trent Vale route about 1910

Early Horse Tram System

Train's line in the Potteries was begun, by turning the "first shovelful of mud," early in December, 1861, and service started on January 13, 1862. It ran from Foundry Street, Hanley, to Burslem Town Hall and was laid with the detestable step rail favoured by Train that was such a source of discomfort to other traffic. The undertaking of the Staffordshire Potteries Street Railway Co., Limited, was leased to George B. Bradford in 1864, following Train's return, frustrated, to the United States. The new lessee promptly relaid the track with a grooved rail flush with the street surface and as a result this horse tram line functioned successfully until 1880, when it was acquired by the North Staffordshire Tramways. It was the only one of Train's routes to have a continuous life.

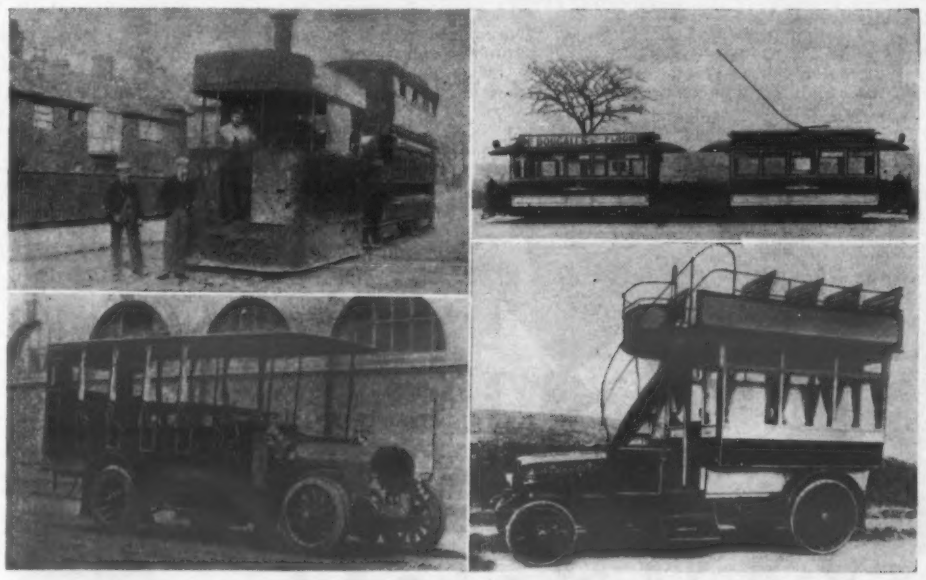
The North Staffordshire company, registered in 1878, was the first of the notorious H. O. O'Hagan's steam tramway promotions. Steam trams between Longton and Stoke began in 1881 and they took over the half-hourly horsecar service between Hanley and Burslem the following year. The steam tramway gauge was 4 ft.; the first 14 engines and a Beyer Peacock steam car appear to have been replaced by 20 Beyer Peacock engines designed to haul large canopied double-deck bogie cars in 1884. Despite their method of finance they were popular and in their last three years the trams ran, over 6¾ miles of route, one million miles to carry 12 million passengers.

Electrification

In 1896 the nascent enterprise of the British Electric Traction Co., Limited, took over the North Staffordshire company. The new Potteries Electric Traction Company was incorporated on June 28, 1898, just 60 years ago. It had to negotiate with 10 local authorities and thousands of frontagers to secure its proposed system and to obtain for it at least the 21 years' security of tenure due to it under the Tramways Act, 1870. The drive of Emile Garcke, first chairman of the company, overcame the obstacle and the first electric route opened on May 16, 1899. By 1902 105 cars carried over 14 million people and in three more years there were 30 miles of route, the network covering the Potteries area and some of the surrounding country.

Straker-Squire steam buses were the subject of an experiment in 1901; an endeavour with double-

(*Continued on page 14*)



Beyer, Peacock steam tram locomotive hauling a double-deck car in 1898; coupled cars used experimentally in 1924—earlier, trams and trailers had been employed. Below: left, first charabanc of the Potteries company the chassis of which was also used as the basis of a tower wagon; right, Mutel-engined Brush double-decker used on tramway feeder services in 1904

A 28-seat Daimler charabanc at the end of the 1914-18 war; an A.E.C. Reliance with Willowbrook Viking 41-seat body. Below: left, the garage and filling station acquired from Brown's Motor Co. (Tunstall), Limited, and, right, the P.M.T. cafe and garage at Newcastle-under-Lyme

Results of Experience

Operators who are using passenger vehicles of integral construction, and whose experience covers many countries and every service condition, give reasons for their preference. They state that these coaches give

(*a*) lower operating expenditure
(*b*) lower maintenance costs
(*c*) greater operating safety.

The Leyland M-C-W Olympic is the most widely used passenger service vehicle employing integral construction. Improvements incorporated in the Olympic Series II are therefore based on unparalleled experience of this type of vehicle. In the Series II the basic design remains unchanged, but structural modifications have been made to enable the framework to withstand exceptional overload conditions. Also, the latest Leyland "Worldmaster" running units—including the 150 b.h.p. oil engine and the Pneumo-Cyclic semi-automatic gearbox giving two-pedal control—are now incorporated.

Consequently the Olympic Series II is stronger and safer, has a greater performance and better braking. It is easier to drive and simpler to maintain.

May we send you full specifications and details?

OLYMPIC SERIES II

Available with left-hand or right-hand drive.

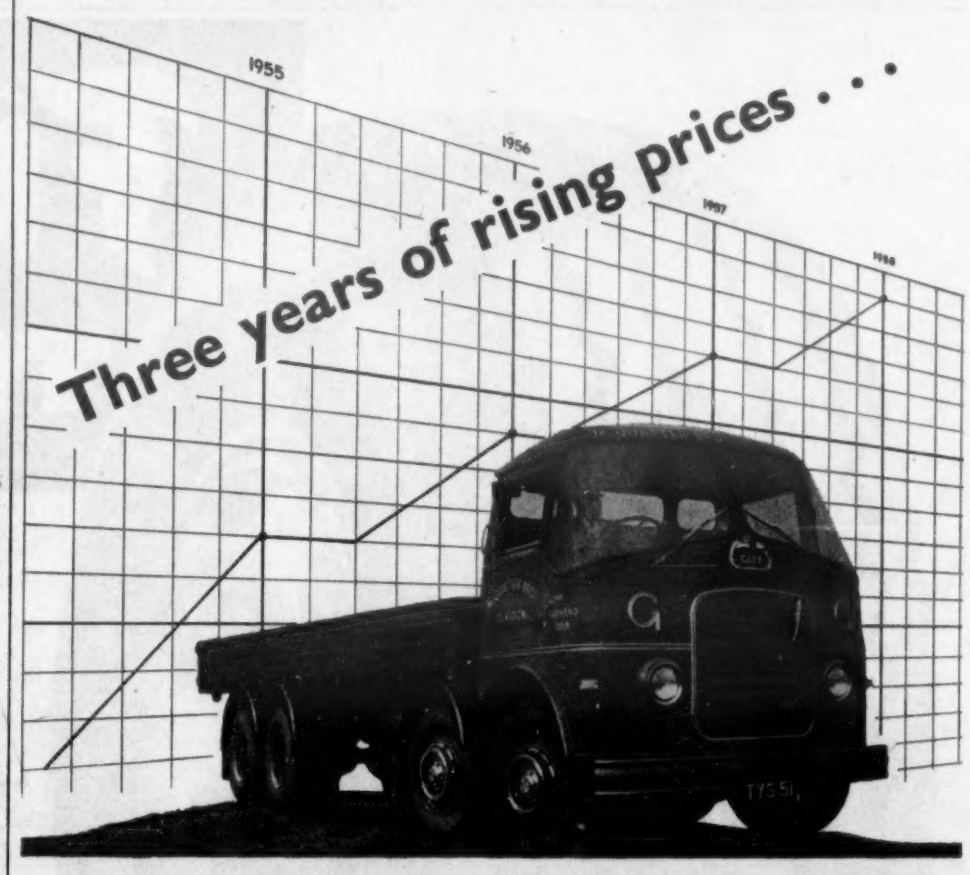
The metal construction forms a deep box section, with longitudinals and cross members of great depth, and additional reinforcement over door openings.

The driver's compartment is spacious and is planned for maximum visibility. The photograph shows the two-pedal control and fingertip gear change.

Leyland M-C-W Olympic with 150 b.h.p. oil engine.

Leyland M-C-W — LEYLAND MOTORS LIMITED, Head Office and Works: LEYLAND, LANCASHIRE, ENGLAND; London and Export Office: HANOVER HOUSE, HANOVER SQUARE, LONDON, W.1 — METROPOLITAN-CAMMELL-WEYMANN LIMITED, VICKERS HOUSE, BROADWAY, S.W.

AP 167



— yet GUY trucks cost no more!

3 years of rising wages, material costs and overheads, yet Guy Truck prices remain at their 1955 level. Consider too the remarkably low running cost, fuel consumption and exceptionally high performance, and you will see why Guy Trucks are outstanding in the 2-24 ton class.

Guy Trucks were top value in 1955; this is even truer in 1958!

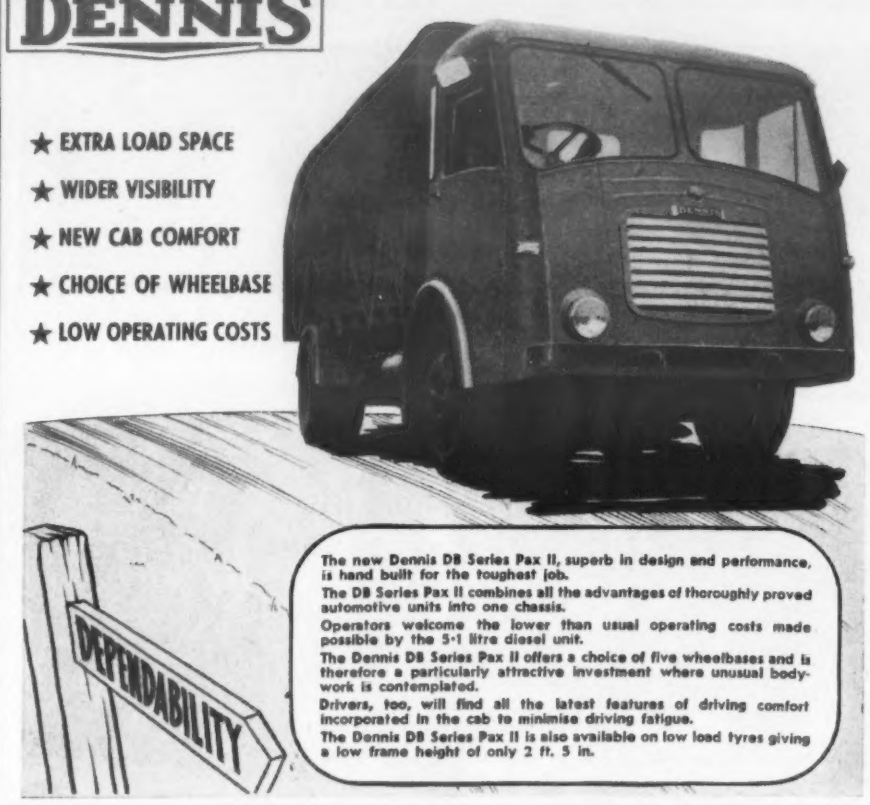
GUY — *tailor made for longer life at lower cost*

GUY MOTORS LIMITED • WOLVERHAMPTON

You're on the Right Road with the DB series PAX II

DENNIS

★ EXTRA LOAD SPACE
★ WIDER VISIBILITY
★ NEW CAB COMFORT
★ CHOICE OF WHEELBASE
★ LOW OPERATING COSTS



The new Dennis DB Series Pax II, superb in design and performance, is hand built for the toughest job.
The DB Series Pax II combines all the advantages of thoroughly proved automotive units into one chassis.
Operators welcome the lower than usual operating costs made possible by the 5·1 litre diesel unit.
The Dennis DB Series Pax II offers a choice of five wheelbases and is therefore a particularly attractive investment where unusual bodywork is contemplated.
Drivers, too, will find all the latest features of driving comfort incorporated in the cab to minimise driving fatigue.
The Dennis DB Series Pax II is also available on low load tyres giving a low frame height of only 2 ft. 5 in.

DENNIS BROS LTD GUILDFORD

NEWS FROM ALL QUARTERS

Rhodesia Railways Diesels

Rhodesia Railways announces that dieselisation of the South East line is now imminent. Twelve new 2,000-h.p. diesel-electric locomotives are in course of delivery from England and should commence operating trains on the Bulawayo—Malvernia line early in July. By arrangement with the Mozambique Railways they will be able to take fuel from a specially built plant at Malvernia.

B.R. Tours to Eire

Nearly 600 people have already booked for the all-in tours to Ireland which have been introduced by British Railways and the Creative Tourist Agents Conference and Coras Iompair Eireann. These tours, which start each Tuesday from Euston, Birmingham, Manchester and other provincial towns, cover six different holiday centres in Ireland.

Transport Bill Passed at Stormont

The remaining stages of the Northern Ireland Transport Bill have been completed for it to go before the Senate. This Bill provides for the transfer to the Ulster Transport Authority, with effect from October 1 next, of the Northern Ireland part of the G.N.R.B. undertaking. One of the most severe criticisms of the Bill by opposition members was the power given to the U.T.A. to increase charges without the previous sanction of the Transport Tribunal; the time limit of five years to balance accounts was also subject to criticism.

Scottish Region to Spread Diesel Trains

Scottish Region contributions to railway passenger train operating economies to meet the increased wage bill were announced on Monday this week. They will result in a saving of about £1 million annually. There is to be a 5 per cent reduction, representing about 1 million miles per annum, in the number of trains run, effected during the off-peak periods over several Glasgow suburban lines, including the Cathcart Circle, which will be closed on weekday evenings and after about 2 p.m. on Saturday. Diesel units are to replace steam trains immediately in a number of cases and the more intensive services which they were intended to operate will now be postponed.

Aldenham Works Not a Factory

The House of Lords has dismissed an appeal by the London Transport Executive from a decision of the Court of Appeal on July 11, 1957, holding in favour of the valuation officer for Central Middlesex, on a case stated by the Lands Tribunal, that its Aldenham bus overhaul works was not an industrial hereditament. Lord Morton of Henryton, said it was a maintenance plant, covering repairing, overhauling and reconditioning of vehicles; it did not amount to reconstruction or new manufacture, hence it was not an industrial hereditament within the meaning of section 3 of the Rating and Valuation (Appointment) Act, 1928. Lord Denning, in a dissenting view, said that buses were taken to pieces and parts repaired, reconditioned or renewed. The depot was a factory.

Export Express Service from North-East

The North Eastern Region has extended its export express service to include services for full truck loads of export traffic from the North East via the Liverpool and Manchester Docks. The new service gives an assured next-day arrival.

B.T.C. Advertising Offices

The British Transport Commission commercial advertising service formally opened new offices at 65 New Street, Birmingham, on June 12. They replace former premises at Snow Hill Station. Another new office is at 246 High Street, Exeter, replacing that at Exeter Central Station.

Chicago Bids Farewell to Trams

The Chicago Transit Authority planned to withdraw its last streetcar route on June 21, thus bringing to a close in that guise a system which in the 1930s boasted 3,700 cars. It was the largest system under one management. A rapid transit line, making use of the median strip of an expressway, was to come into service the following day. This is the West Side Subway; it replaces the Garfield Park elevated section. Two other expressways are to have rapid transit lines and one will have reserved lanes for buses. Baltimore reports that its experimental kerb lane reservation for buses in Cathedral Street at peak hours is to be made permanent.

Station Never in the Timetable

A station which used to deal with some 8,000 passengers daily and yet was never in the timetable closed on June 27. It was Cold Meece, Staffs, built in 1941 to deal with workpeople travelling to the nearby Royal Ordnance Factory. The station has four platforms and was able to deal with five trains conveying thousands of passengers within 25 min. The layout includes scissor crossings and engine runround roads between the platform tracks. At the peak period there were three arrivals and three departures of five trains three times a day with shift workers, a "long day" workers' train which conveyed contractors' employees and maintenance staff morning and evening, and a "recreational" train on Saturdays.

Quicker End to Glasgow Trams?

At a meeting of Glasgow Corporation on June 26 the possibility of speeding-up the elimination of tramcars from the municipal services was raised. Councillor J. Bennett, convener of the Transport Committee, stated that during May 142 tramcars (all more than 40 years old) had to be withdrawn from service. The remedy, he added, was to expedite the policy of converting tram services to bus operation. With a little patience and forbearance the conversions could be carried out with the minimum of inconvenience to the public. Councillor G. Reid asked if the estimate of 10 to 15 years for getting rid of the whole tramcar fleet could be reduced. The convener replied that 10 to 15 years was "just a figure"; the conversions would be made just as soon as they could be. After the meeting Councillor Reid expressed the opinion that the elimination of tramcars could be completed in eight years.

Firestone TRANSPORT

EXTRA MILEAGE TREAD
—Precision-balanced rib design increases service because tread wears slowly and evenly. Abrasion resistant rubber compound gives longer wear.

IMPROVED SHOULDER DESIGN
—Maximum protection against curb-scuffing. Deep grooves promote quick dissipation of heat.

SAFETY-TENSIONED GUM-DIPPED CORD BODY
—Tension drying of body cords eliminates tyre growth, tread cracking, and gives positive mating of dual tyres.

WIDER, FLATTER TREAD
—More rubber on the road gives more uniform wear, increases mileage and gives greater resistance to skidding.

RIM-FITTING BEADS
—Stronger bead foundation reduces bead and side-wall failure because excess chafing and flexing are eliminated.

DRIVE SAFELY

Experience Counts
44 factories throughout the world. Firestone total sales exceed £1,000,000 per day.

Firestone TYRES—
consistently good

COMMERCIAL AVIATION

Reopening of Ratmalana

BATTERSEA HELIPORT

RATMALANA AIRPORT, Colombo, will be officially reopened to international traffic by the middle of this month. The terminal building has been completely redesigned to provide the west wing for passengers and the east wing for offices of airlines and the staff of the Ceylon Civil Aviation Department. The total cost of the terminal building is about Rs.7,500,000. The reconstructed runway is stated to be able to take Britannia aircraft. Meanwhile, the construction of a new runway at Ratmalana is also receiving attention.

B.O.A.C. Tourist Class Demand

Notwithstanding the great success of the economy class fares recently introduced on North Atlantic services of the British Overseas Airways Corporation, bookings for tourist-class seats are also increasing. The B.O.A.C. sales manager in the U.S.A., Mr. H. F. Good, has said that for the peak tourist season from June 1 to July 31 B.O.A.C. has sold more than 80 per cent of the tourist space on flights from the U.S.A. to Britain. The flights between New York and Boston and the United Kingdom are booked to 80 per cent of the tourist class capacity. Britannia services on the Middle West routes, from Chicago through Detroit and Montreal are booked to 88 per cent for this class; the figure is 82 per cent on the Britannia services from San Francisco to London.

3,200-s.h.p. Dart Completes Test

The Rolls-Royce Dart RDa10 turboprop engine has successfully completed a 25-hour flight approval test at a military rating which provides 3,200 s.h.p. for take-off boosted with water methanol, with a normal rating of 2,650 s.h.p. The condition of the engine on strip was excellent. The test, which was officially observed by the Air Registration Board, was run at more stringent conditions than required by the regulations. For example, 56.6 per cent of the test was run at maximum continuous power as compared with 30 per cent required in a normal type test. This test has demonstrated that the Dart RDa10 can be approved at this rating to permit flying in a prototype aircraft, and Rolls-Royce is currently offering this rating of the RDa10 to aircraft manufacturers for use in military aircraft.

New Services Approved

The Minister of Transport and Civil Aviation, after considering the recommendations of the Air Transport Advisory Council, has approved the operation of a number of services, including:

An inclusive tour service between Southend and Calvi; B.K.S. Air Transport, Limited, from May to October, 1958, inclusive and for a similar season in 1959.

An inclusive tour service between Lydd and/or Gatwick and Basle; Silver City Airways, Limited, from April to October, 1958, inclusive and for a similar season in 1959.

A normal scheduled service on the route Newcastle—Leeds (optional)—Brussels; Silver City Airways, Limited, until March 31, 1960.

An inclusive tour service between London (Blackbushe) and Luxembourg; Eagle Aviation, Limited, from May 10, 1958, to September 29, 1958, and a similar season in 1959.

An inclusive tour service between London (Blackbushe) and Innsbruck; Eagle Aviation, Limited, May 26 to September 30, 1958, and a similar period in 1959.

An inclusive tour service between Derby and Tarbes; Derby Aviation, Limited, seasonal from April to October each year until October 31, 1959.

An internal service between Newcastle and London Airport; B.K.S. Air Transport, Limited, until March 31, 1964.

An inclusive tour service between Southend and Basle; B.K.S. Air Transport, Limited, until October 31, 1958. This service will be operated by Hunting-Clan Air Services, Limited, under sub-contract.

Helicopter Landing Station at Battersea

Construction of a helicopter landing station on the Thames at Battersea by Westland Aircraft, Limited, has been approved by Mr. Brooke, Minister of Housing and Local Government. An application by Rotorports, Limited, to build a helicopter port between Lambeth and Vauxhall bridges has been refused because the site was not thought to be suitable. Public inquiries into the two schemes were held in May.

The consent given to Westland Aircraft is for a period of seven years; the project has also been approved in principle by the Port of London Authority and the Ministry of Transport and Civil Aviation. The selected site is at York Road, between Battersea railway bridge and Wandsworth Bridge. A T-shaped landing platform will be built out over the river on reinforced concrete or steel piles and there will be a roughly square space ashore with a river frontage of about 200 ft. The landing area—the head of the T—will be 125 ft. by 50 ft., and the width of the upright of the T, connecting the landing platform to the shore, will be 60 ft. There will be parking space ashore for three large or five small helicopters. All approaches will be over the river.

British Traffic in 1957

United Kingdom airlines carried 3,977,000 passengers on scheduled services during the calendar year 1957, or 15.2 per cent more than in 1956, and these passengers were flown 2,431 million passenger-miles, 15.6 per cent more. Total traffic increased by 14.4 per cent to 316 million ton-miles and freight traffic rose by 14.6 per cent to 57 million ton-miles. The operation of larger and faster aircraft at increased frequencies and the introduction of new services was reflected in the percentage increases. B.O.A.C. carried 460,000 passengers on scheduled services during the year 1957, an increase of 18.4 per cent over 1956, and these passengers travelled 1,320 million passenger-miles, or 13.3 per cent more. Freight carried increased by 11.4 per cent and the overall load factor fell from 63.3 to 62.2 per cent. B.E.A. carried 2,751,700 passengers on scheduled services during the year 1957, or 12.9 per cent more than in the previous year, and these passengers flew 926 million passenger-miles, or 16.5 per cent more. Total traffic carried went up by 15.1 per cent on international services and by 14.4 per cent on domestic services. The international overall load factor rose from 63.5 to 65.3 per cent, but the domestic load factor fell from 63 to 62.1 per cent. The independent airlines operating in association with the corporations carried 761,000 passengers on scheduled services, 21.2 per cent more than in 1956, international operations showing an increase of 22.6 per cent and domestic operations an increase of 19.5 per cent. These passengers travelled 174 million passenger-miles, or 16.7 per cent more, and total traffic ton-miles went up by 19.6 per cent. The increase in international freight traffic, 25.5 per cent, reflected the continued expansion in vehicle ferry services. The overall load factor fell from 61.7 to 60.7 per cent. Statistics for inclusive tour services operated by the independent airlines showed considerable increases during the year and 136,000 passengers were carried on these services in comparison with 90,000 passengers in 1956.

CHAIRMAN OF THE N.R.T.F.

Mr. JOHN M. BIRCH, M.Inst.T.

• • • • • •

The newly-elected chairman of the National Road Transport Federation is Mr. John Manley Birch, as already recorded in MODERN TRANSPORT. Chairman of the Passenger Vehicle Operators Association from 1949 to 1952, he is now chairman of the national executive and finance committee of that Association. The third son of Mr. William Henry Birch, omnibus proprietor (who was chairman of the Atlas and Waterloo Omnibus Association), and a great-grandson of William Birch who, in 1832, founded the family business now known as Birch Bros., Limited, London, Mr. John Birch was educated at University College School, and trained as a coachbuilder at Brush Electrical Engineering Co., Limited, Loughborough, and at Regent Street Polytechnic. In 1932 he joined his father and eldest brother, Raymond, in the family business, and he is now managing director of the company. He is also a director of Lancashire United Transport, Limited, and of the South Lancashire Transport Company. He is also a member of the bodybuilders committee of the Society of Motor Manufacturers and Traders. He was elected a vice-chairman of the Public Transport Association in 1954 and was chairman from 1955 to 1957. Mr. Birch is a member of the London and Home Counties Traffic Advisory Committee and was appointed by the Minister on that body to represent the interests of persons, other than the British Transport Commission, who are the holders of licences authorising them to operate public service vehicles within the London Traffic Area. He is a freeman of the City of London, a member of council of the Institute of Transport, a liveryman of the Worshipful Company of Carmen, and a past president of the Omnibus Society.

RAIL FREIGHT CHARGES

Users' Experiences of Scheme

AN A.B.C.C. INQUIRY

SOME 700 traders took part in an inquiry which the Association of British Chambers of Commerce, through its 100 affiliated chambers of commerce, has just completed into the working of the British Railways merchandise charges scheme. The object was to obtain early impressions on the working of the scheme at the end of its first year in operation. It is emphasised that as many exceptional rates still apply the real effects of the scheme are only just beginning to be felt. Still more time must be allowed to elapse before any accurate assessment can be made of the full implications.

Chambers were asked to answer six questions designed to test whether, from the users' point of view, the new dispensation in railway freight charges was operating smoothly, and whether the railways had been able to attract new traffic. The results, in the view of the A.B.C.C. show that although the reorganisation, following the introduction of the scheme last July, is almost complete, and the railways are showing a more commercial outlook, they still have a long way to go, as regards rates and standards of service, to compete effectively with road transport; secondly, that the scheme is operating smoothly, and users, as a whole, are experiencing few difficulties, except in obtaining on-the-spot quotation of rates. This, together with the quotation of high rates at the start of negotiations, often leads to delays and consequent loss of traffic.

How Members Replied

The following is a summary of replies received to a questionnaire sent to member chambers:

1. Have the railways in your area reorganised completely their organisation and charging procedure so that the new scheme is operating smoothly?

There is a general feeling among Chambers of Commerce that the reorganisation has been of benefit and is in the main complete; the teething troubles having been overcome, the scheme is working smoothly. However, as many exceptional rates still operate, the real effects of the scheme are only just being felt.

2. Is there any evidence that the railways are now more competitive and commercially minded regarding rates and service than before?

Generally it appears to Chambers of Commerce that British Railways has become more commercially minded but not yet competitive as regards rates compared with road. There is some evidence in the replies of more competitive rates being offered particularly in those classes of traffic the railways wish to attract. There is also evidence of improvement of standards of service. There has been a marked change in the railways' selling technique, but they still have far to go in the field of quoting competitively for rates and in service.

There is still a fairly general complaint that the delegation of authority as regards rates to district officers is not operating as was expected from the traders' side. Frequently the comment is made that there is no ready on-the-spot quotation of rates, etc., without reference to headquarters. This has led to delays and loss of traffic.

Importance of Service

3. Is there any evidence of traffic being either won back by the railways from the road, or conversely being lost by the railways as a result of the new scheme?

On the whole the evidence indicates that no marked change has taken place. The trend is still in favour of road transport on account of service and less handling (even where cost is equal or lower by rail).

The comment was frequently made by companies that they use the railways little. They are not interested in the railways or the new charges scheme. Traffic continued to be lost to road on rate, speed of delivery, less handling, fewer breakages and general service. Small consignments were being lost because of high rates and traffic generally through increased demurrage charges. The railways' practice of indicating high rates at the start of negotiations did result in no further interest being taken by a potential buyer of transport. The present recession in trade, however, makes the replies to this question difficult to assess.

4. Are your members experiencing any special difficulties under the new charges scheme?

The main difficulties mentioned are the increased charges for returned empties and the checking of accounts. Also comment is made on the abnormal length of time taken to quote rates and again the initial quotation of high rates. High demurrage rates are also mentioned.

Wagon Load Rates

5. Have you any evidence that local railway officers are using the wagon guide scale as a rigid charge list?

The majority of replies were in the negative but this result should be interpreted with caution. Some of those replying in the negative did so because they are being charged their former exceptional rates. Also many answering "No" are small firms, who do not perhaps recognise the charges they receive as wagon load rates—which scale, of course, is not made available to the public. There is, however, some indication that where the wagon guide scale has been used, chiefly in cases where traffic does not flow regularly, negotiations are possible.

6. Is the new published small consignment scheme creating any problems?

The general opinion is that the present smalls scale, as a publication, is convenient, handy, and an improvement, but the level of charges in the main is considered high—even extortionate in some cases. In other replies, where the companies' traffic was previously highly classified on account of value, the level appears satisfactory. Some firms experience difficulty in checking their charges as the relevant distances are not published, and can only be obtained by reference to stations. There is a feeling that, in not allowing cartage rebates from the scale, where such services are performed by traders, the railways are being unfair.

Theso Weesp N.V.10 (Technische Handel-en Service Onderneming), Nieuwstad 114, Weesp, Holland, has been appointed by Leslie Hartridge, Limited, Buckingham, agent in the Netherlands for the company's diesel fuel servicing equipment.

For its soundness, pressure resistance, tensile strength and toughness . . . for its wear resistance, excellent machinability and response to heat treatment . . . Meehanite is the obvious casting metal for railway service. When a specific combination of physical properties is required, as for example in diesel engine components, gears and many rolling stock sub-assemblies, there is always a type of Meehanite that is just right for the particular casting.

Cast Iron Can Do it-if it's

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New Albion Goods Vehicles

(*Continued from page 3*)

hub reduction gear, with a ratio of 4 to 1, is formed by an induction-hardened sunwheel gear integrally formed on each half shaft meshing with three planet gears carried on spindles which are fixed to the hub and rotate with it. Reaction is provided by a non-rotating annulus. To ensure equal distribution of forces, the sun gear floats in mesh with the planet gears and the annulus is free to float radially, being anchored to the axle body by a splined member.

Extensive Testing

Despite the provision of hub reduction gears, the hubs are not bulky and, except for the part enclosing the gears, are quite normal and take standard 20-in. eight-stud wheels. The design provides generous margins of strength all round, making for great durability. Despite the use of heavier-section materials at all highly stressed points, the Albion double-reduction axle weighs less than its conventional counterpart. When we visited Scotstoun recently to test the two new vehicles (the road test report on the Chieftain appears on pages 11 and 12 of this issue), one of the new axles, which had covered 50,000 miles carrying double its rated load, was stripped for our inspection. The general condition of all the wearing parts of this unit augurs well for its performance and durability in normal service.

The Albion EN289 vertical four-cylinder direct-injection diesel engine has bore and stroke dimensions of 4¼ in. by 5½ in., giving a swept volume of 334 cu. in. (5.5 litres). With C.A.V. fuel-injection pump and injectors and a normal output of 100 b.h.p., it is set to produce 90 b.h.p. at 2,200 r.p.m. and a maximum torque of 252 lb./ft. at 1,200 r.p.m. Major changes in the engine specification for this application are the adoption of a pneumatic governor in place of the mechanical unit used hitherto and the inclusion of a Clayton Dewandre rotary exhauster to power the 9-in. diameter Hydrovac brake servo.

The 13-in. diameter Borg and Beck single dryplate clutch is hydraulically operated by means of a long slave cylinder which provides automatic take up of wear through the usable thickness of the linings. The standard gearbox is the well-known Albion five-speed all-constant-mesh unit with large-diameter shafts and wide-faced gears with helical teeth on all but first and reverse. This is available with an overdrive sixth speed giving a step-up ratio of 0.76 to 1, which is designed for simple incorporation in vehicles already in service. The Chieftain specification includes Girling two-leading-shoe brakes providing a total lining area of 494 sq. in. and 8.25-20 12-ply India tyres.

5-ton Claymore

The introduction of the underfloor-engined Claymore for 5-ton payloads will be welcomed by many operators who already appreciate the advantages of the existing 30-35 cwt. Cairn and 4-ton Claymore layout for certain types of work. Indeed, the introduction of the new chassis can be said to be in response to what is generally termed "popular demand" and the order book for the 5-tonner already looks encouraging. The low floor level of the three-seat cab giving easy unobstructed access from either side is invaluable in local delivery service and the ability to take a large-capacity body on a short-wheelbase chassis offers advantages to carriers of light bulky loads.

The 5-ton Claymore is designed for a gross weight of 8¼ tons and is offered in three wheelbase lengths —10 ft. to take a 13 ft. 6 in. body, 11 ft. 10 in. for a 16 ft. 6 in. body and 12 ft. 10 in. for a body length of no less than 18 ft. Tare of the long-wheelbase CL3L in kerb trim is about 47 cwt., leaving an allowance of 5 tons 18 cwt. for cab, body and load. A new pressed-steel cab is offered with the chassis and the inclusion of a greater number of proprietary components than has been Albion practice hitherto has permitted the offering of a quality vehicle at a very competitive price.

Easy access and driver comfort are features of the new welded-steel Chieftain cab

The four-cylinder Albion direct-injection horizontal diesel engine, redesignated EN250 in this application, has been modified by the incorporation of Leyland-type combustion chambers and, with Simms fuel injection pump and Leyland multi-hole injectors, develops 72 b.h.p. at 2,200 r.p.m. and 190 lb./ft. torque at 1,300 r.p.m. from a capacity of 251 cu. in. (4.1 litres). This engine too is now fitted with a pneumatic governor but retains the automatic vacuum by-pass valve in the manifold to maintain vacuum in the reservoir to power the Clayton Dewandre Hydrovac servo for Lockheed two-leading-shoe brakes.

The engine drives through a 12-in. Borg and Beck single dryplate clutch, David Brown Type 440 four-speed constant-mesh (except first and reverse) gearbox and Hardy Spicer universal-jointed short propeller shaft to a spiral bevel rear axle with fully floating half shafts. Alternative axle ratios of 5.85 or 7.2 to 1 are available.

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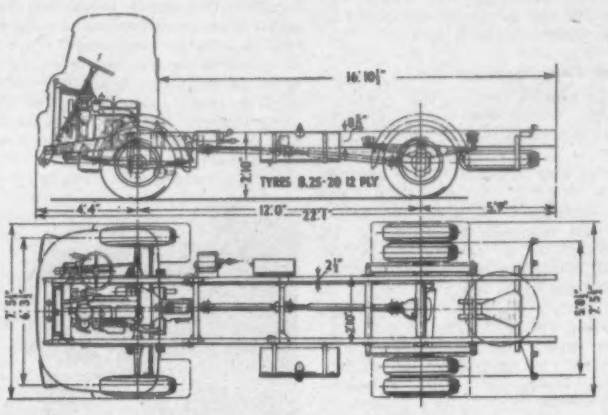
COMMERCIAL VEHICLE TEST

*Albion Chieftain Forward-Control 7-Ton Lorry**

IMPROVED CAB ACCESS AND MANOEUVRABILITY

THE obvious is often difficult to see, no less so in the slide rule-dominated office of the engineering designer seeking some new advantage for his particular product in a highly competitive field than in the ordinary everyday things of life, which is probably why so often when something new is introduced one wonders why it has not been done before. This is rather the case with the new Chieftain 7-ton chassis announced this week by Albion Motors, Limited, which, although retaining the name of a range that has earned a high reputation, is an entirely new vehicle.

What the Albion designers have done in the new Chieftain is to bring the axles closer together and extend the chassis frame rearwards to near the limit of the permitted maximum overhang, so that it takes the generally accepted body lengths and achieves equitable load distribution between the two axles. The increased front overhang carries the cab well forward of the front axle, making access from ground level possible by means of only two easy steps, one of which is a footwell concealed by the closed door and the second the main cab floor, thus removing one of the major objections to modern forward-control vehicles for delivery work.



Drawings showing principal dimensions of the Albion CH3L 7-ton Chieftain chassis

Greater Manoeuvrability

The idea of using a short wheelbase and greater overhang is not new in commercial vehicles. It has long been used for large passenger vericles to preserve manoeuvrability in difficult urban streets and also, by accident rather than design, in some specialised goods vehicles requiring maximum body space for large bulky loads built on standard chassis. But it is new for a standard goods vehicle layout and appears to offer a number of advantages. What the Albion actually achieves are a substantially smaller turning circle for given body size and manoeuvrability and handling characteristics of a much smaller and lighter vehicle.

It is probable, too, that the layout has the effect of reducing frame stresses over poor surfaces, thus improving vehicle performance and durability in operation in undeveloped country. Certainly, 800 miles of continuous hammering over the Albion rough track with one of the development Chieftain chassis has failed to reveal any weakness either in the chassis or the new welded-steel cab. While at Scotstoun, we paid a visit to this track, which is a section of the disused Edinburgh—Ayr railway line near Loudon Hill, in Ayrshire, leased by Albion Motors from British Railways. Part of the original track ballasting provides a typical washboard surface while the remainder is a punishing series of stony potholes, humps and ruts. After watching and taking part in a number of runs over the track in a loaded Chieftain at speeds up to 35 m.p.h., we concluded that the vehicle is capable of withstanding far more of this type of going than is the average human frame. In fact, the 800 miles has been logged by a relay of drivers, who have found that a mile or so at a time is as much as they can stand.

The outstanding performance of the new Chieftain under these conditions is not entirely due to its unusual layout. The company has had more years experience of successful designing for difficult overseas conditions than most, as the many hundreds of Albion passenger vehicles operating in India, which were the first mechanically propelled vehicles to run in a number of the Indian states, testify.

In the new Chieftain, particular attention has been paid to suspension, which is provided by four progressive-type semi-elliptic springs no less than 54 in. long, damped at the front by double-acting telescopic shock absorbers.

We found this to give an exceptionally comfortable ride, both in the fully laden 12-ft. wheelbase vehicle fitted with Homalloy 16 ft. 6 in. light-alloy platform and headboard which we tested on the road and in the half-loaded chassis and cab that we drove over the rough track. In fact, with steering characteristics that were as nearly perfect as could be, the vehicle set standards of stability and controllability for goods vehicles of this capacity unequalled in our experience.

Apart from the easy access already mentioned, the new welded-steel cab, details of which are given in the article on page 3, provides excellent all-round visibility and maximum comfort and convenience for the crew. All the controls are well placed and a noteworthy feature of the centrally mounted instrument panel is that except for the ammeter, all the Smiths instruments, comprising speedometer, oil-pressure gauge, temperature gauge and vacuum gauge, are graduated in metric as well as English measures. The basic cab layout is arranged for either right- or left-hand control.

New standards of compactness and manoeuvrability are introduced with the 12-ft. wheelbase Chieftain, seen in the background with new steel cab and Homalloy 16 ft. 6 in. light-alloy platform and headboard

Hilly Route

Our test route covered about a 90-mile round trip from Scotstoun over the Campsie and Fintry Hills to Stirling, returning to Glasgow through Drymen. Apart from the 10 miles or so of the Stirling Straight on A811, where our braking and acceleration tests were carried out, the route was a very hilly one—probably rather more arduous than our standard test route in the Kent and Surrey hills—over mainly winding narrow roads. These are the conditions in which Albion vehicles have been bred and in which the Chieftain proved a pleasure to drive.

(*Continued on page 12*)

* No. 448 in the MODERN TRANSPORT series of road tests.

TEST RESULTS AT A GLANCE

Vehicle Details

MAKER: Albion Motors, Limited, Scotstoun, Glasgow.

TYPE: CH3L Chieftain 7-ton forward-control lorry.

ENGINE: Albion EN289 four-cylinder vertical direct-injection diesel; bore 4¼ in. (114·3 mm.), stroke 5½ in. (133·4 mm.), cubic capacity 334 cu. in. (5·5 litres); 90 b.h.p. at 2,200 r.p.m., 252 lb./ft. (34.84 kg.m.) torque at 1,250 r.p.m.

TRANSMISSION: **Clutch,** hydraulically operated Borg and Beck single dryplate, 13 in. (33 cm.) dia., 163 sq. in. (1,052 sq. cm.) frictional area; **gearbox,** Albion five- or six-speed constant mesh, ratios 6·988, 4·308, 2·655, 1·605, 1 and 0·76 to 1 forward, 6·343 to 1 reverse; **driveshaft,** open tubular with Hardy Spicer 1510-series needle roller bearing universals; **rear axle,** Albion spiral bevel-epicyclic double reduction, ratio 6·248 to 1 standard with various options.

BRAKES: Girling hydraulic two-leading-shoe with Clayton Dewandre Hydrovac servo; total lining area 494 sq. in. (3,187 sq. cm.).

TYRES: 8·25-20 12-ply, twin rear, India Red Flash standard.

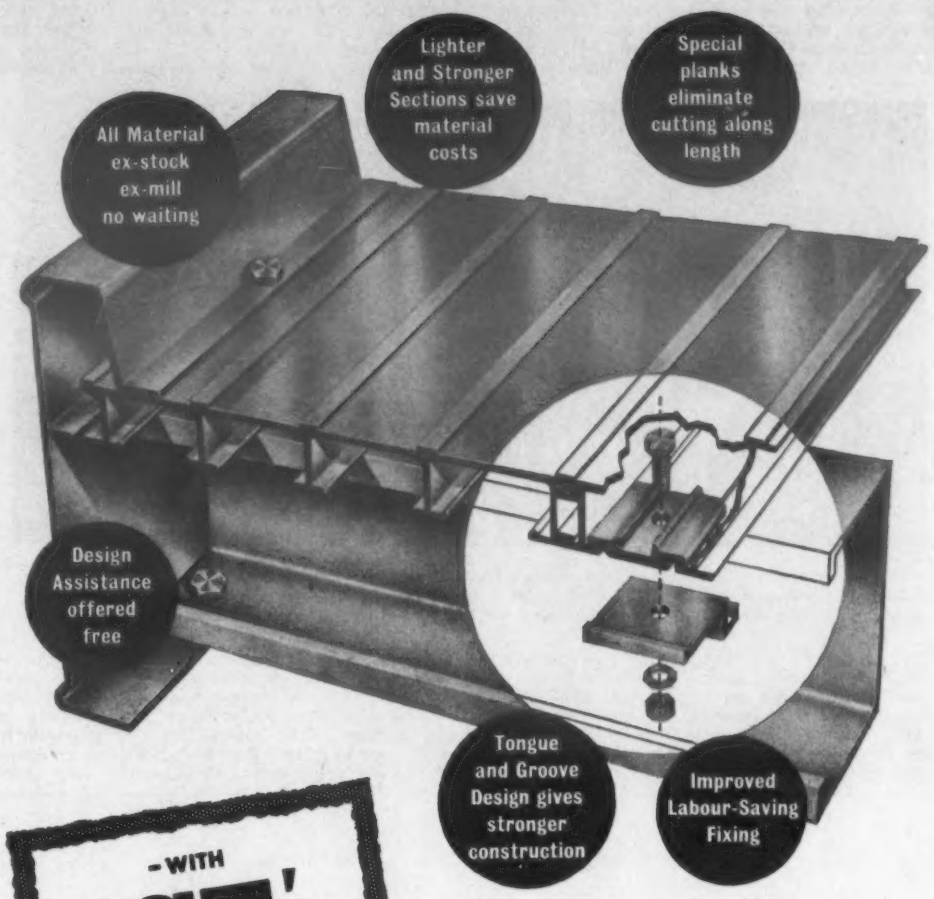
WHEELBASE: 12 ft. (3·66 m.); longer and shorter alternatives available.

WEIGHT: Chassis and cab in licensing order about 3 tons 1 cwt. (3,099 kg.); complete alloy platform lorry as tested in full kerb trim 3 tons 12 cwt. (3,657·7 kg.).

Test Results

ROUTE: Glasgow—Campsie and Fintry Hills—Stirling—Glasgow.
CONDITIONS: Cloudy and rather cold.
RUNNING WEIGHT: 10 tons 13½ cwt. (10,846 kg.) plus crew of two.
PAYLOAD: 7 tons ½ cwt. (7,189 kg.).
FUEL CONSUMPTION: Over 20 miles out and back continuous running 17·6 m.p.g. (6·22 km./litre) at 28·9 m.p.h. (46·4 k.p.h.) average speed. Outward leg 18·6 m.p.g. at 30 m.p.h.
GROSS TON/M.P.G.: 190·4 (68·5 tonnes/km./litre).
PAYLOAD TON/M.P.G.: 124·6 (44·8 tonnes/km./litre).
MAXIMUM GRADIENT CLIMBED: 1 in 5 (20 per cent).
TURNING CIRCLE: 45 ft. (13·7 m.) wheeltrack.
ADJUSTMENTS DURING TEST: None.
ACCELERATION:
Averages of four runs, two in each direction, through gears:
0-20 m.p.h. 13·7 sec
0-30 m.p.h. 32 sec.
in direct drive:
10-20 m.p.h. 14·5 sec.
10-30 m.p.h. 33 sec.
BRAKING: Average of several emergency stops from 30 m.p.h. on dry level tarmac 52 ft. 8 in. (16 m.); equivalent to 18·4 ft. per sec. per sec. or 0·57 g. average retardation; Tapley meter 74-79 per cent. Handbrake only, 33-35 per cent Tapley meter from about 20 m.p.h.
ESTIMATED TOP SPEED: Over 50 m.p.h. (80 k.p.h.).
OVERALL FUEL CONSUMPTION: For 93 miles of hard driving over mainly hilly route, including numerous stops in hill-climbing, braking and acceleration tests, 12·5 m.p.g. (443 km. per 100 litres).

New Simplified Speedier Body-Building—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P 303

Albion Chieftain On Test

(*Continued from page 11*)

Quite early in the test, the engine power was tested on a 1 in 5 gradient, where an easy start was made in first gear, and the fascination of driving behind the lusty big-bored four-cylinder diesel grew on us as we forged our way up the side of Campsie Glen. This is a long pull of about three miles, with a steepest gradient of about 1 in 7, which was taken mostly in third and fourth gears, second being required only for two short stretches with gradients steeper than 1 in 8. Opportunity was taken here to check temperature rise in various components; with an ambient temperature of 55 deg. F. (50 deg. in the face of a keen wind at the top of the hill) a normal coolant temperature of 145 deg. F. rose to and remained steady at 160 deg. Casing temperatures of the gearbox and new double-reduction rear axle (fully described in the page 3 article) were moderate to the touch and did not warrant the use of the thermometer.

An opinion we have expressed on a number of occasions that six gears, one a moderate overdrive, controlled by a single lever is an ideal arrangement for a trunk-haulage diesel lorry was confirmed by the performance and handling of the Chieftain. The Albion box is a particularly good one with well-graded ratios and constant mesh (dog engagement) throughout. This gives an economy of gear-lever movement and easier changing in the lower gears than is the case with sliding-mesh gears. Overdrive sixth position follows in natural progression from fifth and is guarded by a light spring, as is the first-reverse selector on the opposite side of the box. Faultless gearchanging was possible even when technique was deliberately made rather sloppy and full-power straight-through changes from second to third on up-grades were smooth as butter.

The development Chieftain chassis and cab (minus grille bars) snapped at speed on the Albion rough track in Ayrshire. In the left-hand picture, the offside front wheel is well clear of the ground. The vehicle has already covered 800 miles over this punishing track without trouble

The overdrive is offered as an optional extra and would certainly be a good investment on any service except local delivery work. With the standard axle ratio of 6.248 to 1, it gives a top speed, where this is permissible, of over 50 m.p.h. compared with 41-42 m.p.h. in direct drive, or it permits cruising at a 76 per cent lower engine speed, with consequent improvements in fuel economy and engine durability. The overdrive gear is incorporated in the main gearbox, which has been designed so that it can be easily embodied in vehicles originally supplied without it.

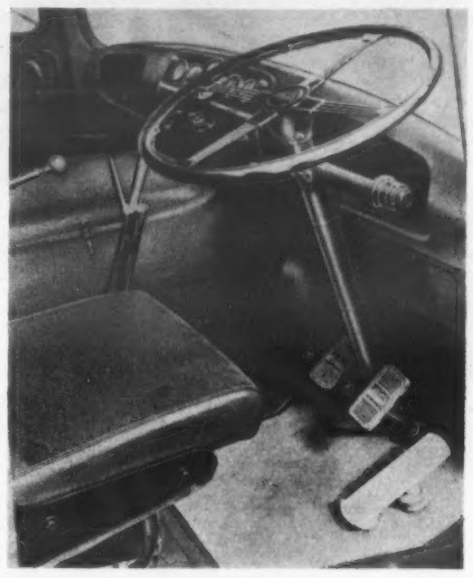
Fuel Consumption

Fuel consumption checks were made over a 20-mile out-and-back route between Buchlyvie and Stirling on A811 and also for the whole day's work. The moderately rated Albion four-cylinder engines show a favourable specific fuel consumption on the bench of 0.35 to 0.384 pt. per b.h.p./hr. and this is translated to advantage on the road. In the two separate non-stop legs of the run on A811, which is all narrow and about half undulating with moderate gradients and half fairly level, the Chieftain returned 18.6 m.p.g. at 30 m.p.h. average speed on the outward trip, with a generally falling gradient, and 16.7 m.p.g. at 28 m.p.h. on the return leg, giving an overall return for 20 miles of 17.6 m.p.g. at 29 m.p.h. and representing the likely return in all-loaded trunk service. The result of 12.5 m.p.g. overall consumption obtained over 93 miles of mainly hard driving in hilly country, which included much stopping and low-gear work in the many checks, gave a fair indication of about the worst return likely from a vehicle used exclusively in fully loaded frequent-stop service.

Acceleration and braking were in accord with the other high performance standards of the vehicle. From a standing start through the gears, average times to reach 20 and 30 m.p.h. respectively were 13.7 and 32 sec. while excellent flexibility was indicated by smooth acceleration from a speed of 10 m.p.h. to reach 20 m.p.h. in 14.5 sec. and 30 m.p.h. in 33 sec. The short, robust crankshaft of the four-cylinder engine, of English Steel Corporation origin, is fully balanced and provided with generous bearing areas and, in consequence, the engine appeared free of any suggestion of a period throughout its speed and power range. Noise level was also reasonably low and although not the quietest diesel we have experienced, the quality of the noise was not obtrusive and one that the average driver and his mate could live with without strain.

Generous Brake Size

The Girling two-leading-shoe hydraulic brakes provide a specific lining area of over 48 sq. in. per ton of recommended gross weight and the Clayton Dewandre Hydrovac vacuum servo provides both sensitive reaction and adequate power. Our accurately measured stops from 30 m.p.h. on dry level roads were made in distances varying from 50 to 57 ft., depending on the quality of the surface, while the Tapley meter recorded 74 to 79 per cent. The generous friction area and the use of moulded linings had apparently removed the possibility of brake fade to well outside the vehicle's normal operating range. The long descent from the Fintry Hills was carried out in top gear (where normal driving would have called for spells in fourth and third) and the brakes were as efficient at the bottom as at the top. A series of heavy retardations from 30 to about 15 m.p.h. carried out later on the Stirling Straight and checked by Tapley meter also produced no falling off in efficiency.



Interior of the Chieftain cab showing controls and central instrument panel

Accessibility for Maintenance

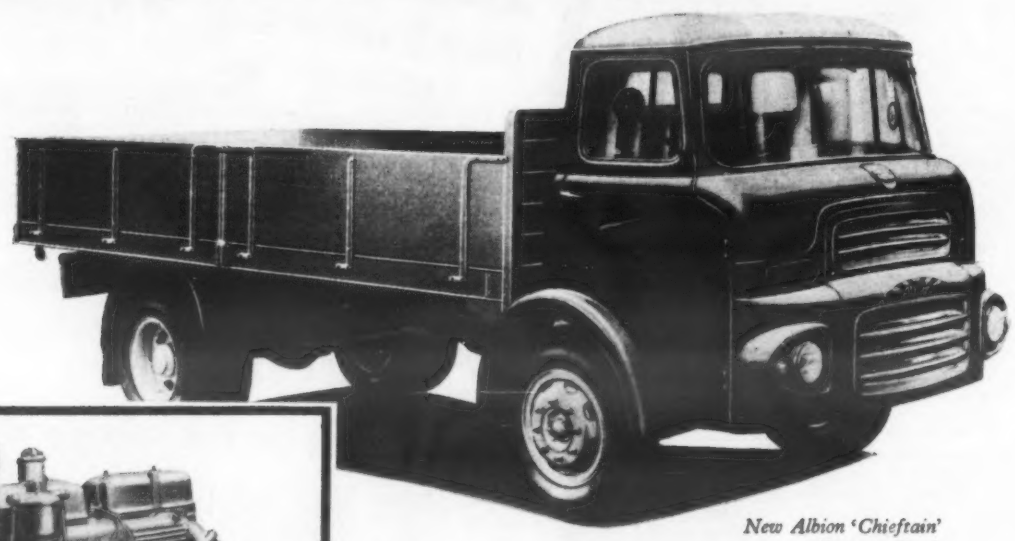
Accessibility for normal maintenance tasks has been carefully studied in the Chieftain design. The engine top cover is retained by two clips and is quickly removable to give good access to dipstick, oil filler, injectors, excess-fuel button and so on, while the engine side cowling is bolted to the cab floor plates. The large front grille can be removed in a few minutes, whereafter removal of the radiator and front crossmember permits withdrawal of the engine through the large front aperture. The cab itself is also quickly removable, where this procedure is preferred. With the 24-volt batteries in the cab, all electrical wiring except that for the tail and stop lamps is in the cab and the withdrawal of a plug for these lights, removal of the steering wheel and withdrawal of four bolts are all that is required to free the cab from the chassis.

The centrally mounted instrument and switch panel is detachable and fuses and the voltage regulator are carried on a separate panel behind the dash, quick access being provided by a removable cover. Other design features that will lead to easier and more efficient maintenance are incorporated in the axles. In the front axle, for example, the large steel-phosphor bronze thrust bearings of the king pins have been enclosed in casings which form lubricant reservoirs.

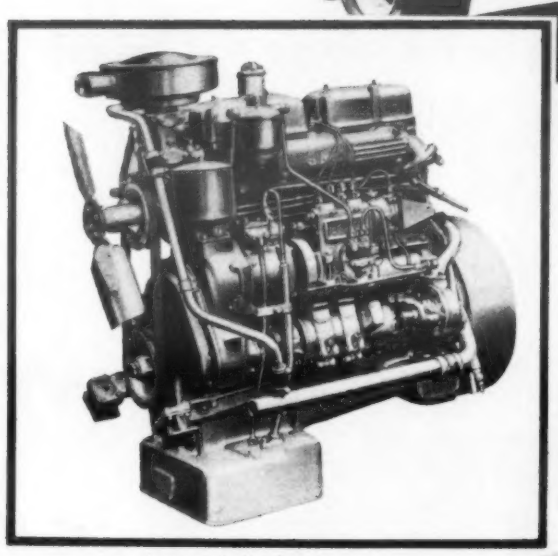
To avoid the necessity for three oil checks on the new double-reduction rear axle, an overall lubrication system has been adopted for this unit. The central axle-gear housing has a capacity of 19 pt. of oil and covers the requirements of the whole axle, including hub reduction gears and hub bearings. The outer oil seals are of a special lipped type rotating with the hub and running on a highly finished journal. Special oil-retaining measures have been necessary for the differential gear which otherwise, due to its high rotational speed, would tend to throw out its oil by centrifugal force. The differential has therefore been made a completely enclosed unit apart from an oil entry near its axis so that the gears run virtually in an oil bath.

All in all, the new Albion Chieftain appears set to uphold and enhance the enviable reputation earned by its predecessors.

The two new Albion vehicles



New Albion 'Chieftain' 6½–7 ton diesel.



90 h.p. 4-cyl. diesel engine as fitted to the 'Chieftain' chassis.

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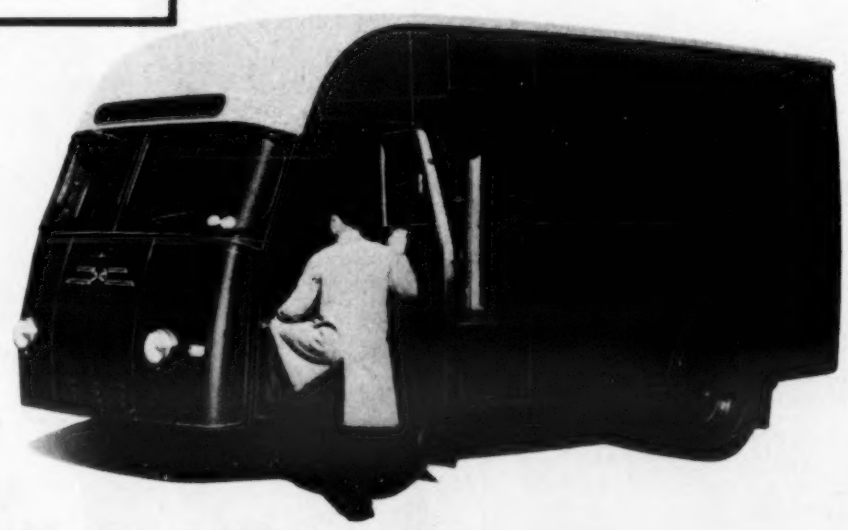

New Albion 'Claymore' 4–5 ton horizontal diesel.

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FRAMELESS BUILDINGS

Coseley Develops Overseas

FOLLOWING the acquisition of world rights to make and market Kingstrand frameless aluminium buildings, the Coseley Engineering Co., Limited, Wolverhampton, is developing extensive markets overseas. This system of building was developed in Canada by engineers of Aluminium Laboratories, Limited, Kingston, the research company of the Aluminium Company of Canada, which set out to find a method of crimping aluminium to such a shape that thin sheets could be made strong enough to provide walls for small buildings without interior supports. The sheets are fabricated in Britain and the Coseley company plans to step up production and build up an export trade through its network of associated companies, which are established in Canada, the United States, Central America, the West Indies, Africa and the Middle East.

The Kingstrand building can be erected in a few hours by unskilled labour and can be of any size, with the addition of room units and verandas to a basic two-room unit 10 ft. by 20 ft. or four-room unit 20 ft. by 20 ft. Buildings are supplied as a package, complete with the few necessary tools to erect them. A 750-sq. ft. building packs into a case weighing less than 2,000 lb. gross.

B.R.S. IN NORTH WALES

Depot Serving Flintshire Industries

FORMAL opening by Lord Rusholme, a member of the British Transport Commission and chairman of its road haulage sub-commission, of a depot for British Road Services at Queensferry, Flintshire (about seven miles west of Chester) marks the completion of a programme of four new general haulage depots in the North Western Division, which has set a hot pace in this respect. Earlier depots in this programme are at Liverpool, Warrington and Preston, the last-named being the Irish Ferry branch.

The new Queensferry depot of the North Wales general haulage branch, covering an area of about three acres, is situated about five miles north-west of the former depot at Bretton which it supersedes. The move has been beneficial in a number of ways; Queensferry is within the Deeside industrial belt and much empty running to and from Bretton is thus obviated, together with the ascent of a severe incline; the traffic office and other depot facilities are immeasurably improved and more efficient; there is greater parking space for the large tandem-axled semi-trailers which figure prominently in the fleet. The branch manager is Mr. W. Hughes.

Services Operated

The North Wales branch provides regular general haulage trunk services at night to London, Dunstable, Birmingham, Nottingham, Sheffield and the north-east; regular day and night services operate also to Lancashire. In addition to these scheduled hauls, services are provided, in conjunction with other B.R.S. depots, to all parts of the country. Within the local area there is a delivery service to points along the North Wales coast road, including Anglesey, composite loads in consignments of one ton and upwards being made up on pallets from traffic trunked from all parts of the country converging on Queensferry. Goods are also collected to be fed back into the trunking vehicles for country-wide distribution. This service is provided as required, but generally thrice weekly, with eight-wheelers if necessary. Altogether, the traffic dealt with by the branch last year amounted to 130,000 tons.

Many B.R.S. depots are operating specialised services to fulfil the requirements of individual customers. Queensferry handles steel for the nearby Shotton works of John Summers and Sons, Limited, and a large tonnage of specialised traffic in the form of baled Fibro yarn is taken from the Holywell factory of Courtaulds, Limited, on the Dee estuary 10 miles distant. A fleet of semi-trailers, with hand-operated rope capstans to facilitate the sheeting down of this bulky material, is worked during the day by two tractors between the factory and Queensferry. Two further tractors take over for the haul to the B.R.S. depot at Kearsley, near Bolton, whence a third pair of tractors distribute to mills in the area. This method of working ensures maximum utilisation from the motive units.

The Fleet

An up-to-date fleet totalling 61 motive units and 69 trailers consists for the most part of maximum-capacity rigid and articulated eight-wheelers. Leyland, Atkinson and E.R.F. vehicles are included. There are 29 rigid eight-wheelers, nine trailers to bring their payload up to 24 tons, 19 articulated eight-wheelers with 38 tandem-axled semi-trailers, and eight 10-11 ton articulated units with 22 semi-trailers.

Administration is carried on within a single-storey office block situated on the Chester Road frontage, just inside the depot entrance. The depot manager and his office staff are accommodated here, also the traffic foreman who, from a corner office which commands a view of the yard entrance and of the drivers' report and traffic office, controls the movement of all vehicles entering and leaving the depot. Adjoining the offices is a small, comfortably furnished canteen which provides also a waiting-room for drivers.

Transit Shed and Warehouse

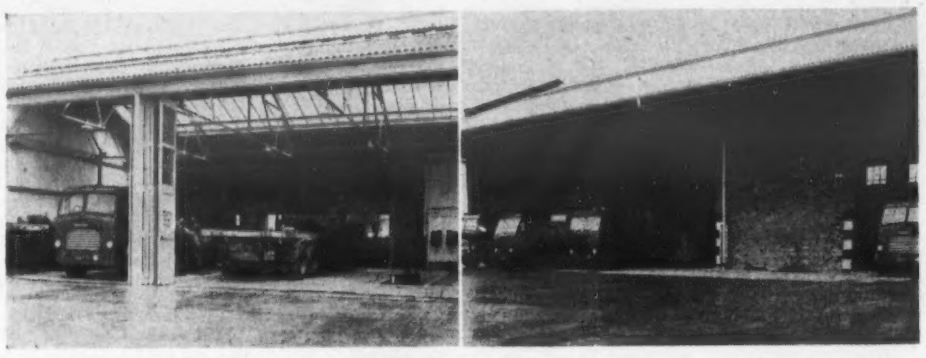
Nearly 6,000 sq. ft. of floor area is available in the large transit shed and warehouse. Steel roller shutters protect all the traffic reception bays, and a canopied platform with eight backing-up spaces has been provided to facilitate transhipment operations. Headroom under the loading bay is 19 ft., sufficient for a heavy-duty fork truck to tranship steel or other weighty traffic if necessary. At present a Conveyancer TC6-20 6,000-lb. diesel truck with forks or crane jib is available for transhipments. There is no overhead hoist as this is regarded as an inferior because less flexible class of handling equipment.

A well-lighted brick-built service station for the repair and maintenance of the vehicle fleet is sited opposite the transit shed beyond the vehicle parking area. The workshop is equipped with three full-length inspection pits, lock-up stores, battery room and office, and can deal with three vehicles at any one time. A special feature of the workshop is the underfloor heating in the inspection pits and the general working area, provided to give improved conditions for workshop staff in severe weather. Both offices and service station are warmed by low-pressure oil-fired boiler systems, the service station through the medium of ¾-in. copper pipes embedded in the floor.

Fuelling Island and Yard Services

A self-contained vehicle fuelling point is provided, with Gilbarco petrol and diesel pumps, manufactured by Vickers-Armstrongs (Engineers), Limited, and distributed by Gilbarco, Limited, London, N.17, and Wakefield oil dispensers. Adjoining the trailer park is a series of compressed air points which enable tyres to be inflated and trailers to be greased without the need to move the vehicles across the yard.

The design of the Queensferry depot, and supervision of the building work, was carried out by the department of the surveyor and architect of British Road Services, Mr. T. Lancaster, and the general contractor for the buildings was G. and R. Brimblecombe, Limited, Buckley (near Chester).



The service station and, right, the transit platform and warehouse entrance at the new British Road Services depot, Queensferry, Flint

Traffic office working conditions are typical of those throughout an attractive administration block

FINANCIAL RESULTS

NOTES on the trading results, dividends and financial provisions of companies associated with the transport industry are contained in this feature, together with details of share issues, acquisitions and company formations or reorganisations.

Provincial Traction

The Provincial Traction Co., Limited, is paying a dividend of 12½ per cent for 1957 (same). Group profit £19,682 (£6,801), after tax of £7,553 (£5,481), etc. Profit attributable to company after amount retained by subsidiary, Gosport and Fareham Omnibus Company, is £13,040 (£4,181).

George Ewer

George Ewer and Co., Limited, earned a group net profit in 1957 of £32,897 (£17,300); dividend is 18¾ per cent (10). Forward £116,263 (£112,475). Current assets £39,317 (£40,663) and liabilities £104,910 (£168,635), of which overdraft £28,279 (£97,905).

E.R.F. Holdings

A dividend of 20 per cent (same) is announced by E.R.F. (Holdings), Limited, for year ended March 31, 1958. Consolidated net profit is £110,358 (£105,883), after tax, excluding profits tax on distribution of £75,581 (£87,106).

Cranes (Dereham)

Net profit of Cranes (Dereham), Limited, for the year ended March 31, 1958, was £31,377 (£24,763), after tax of £37,500 (£31,550). Ordinary dividend, 22½ (20) per cent.

Barr and Wallace Arnold Trust

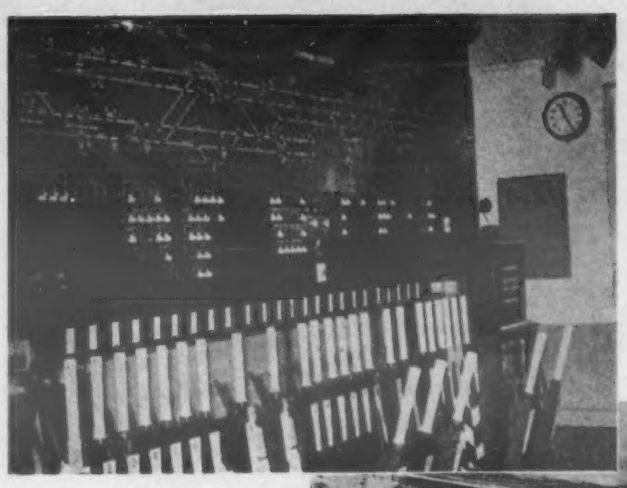
Group net profit of Barr and Wallace Arnold Trust, Limited, in 1957 was £101,289 (£60,986) and a dividend of 20 per cent (same) is to be paid. Recently two additional coach businesses, Cream Cars (Torquay), Limited, and Sunbeam Garages (Torquay), Limited, have been acquired and the name of the Torquay coach subsidiaries has been changed to Wallace Arnold Tours (Devon), Limited.

Triplex Holdings

The Triplex Safety Glass Co., Limited, has changed its name to Triplex Holdings, Limited. This holding company will in future control the investments in the subsidiary companies. These include Triplex (Northern), Limited, which now changes its name to the Triplex Safety Glass Co., Limited.

United Dominions Trust, Limited, announces that its St. Albans office is now at 29 London Road, St. Albans. The telephone number remains unchanged and is St. Albans 55412.

RESIGNALLING AT DUMFRIES

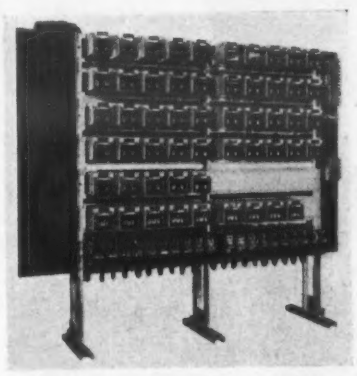


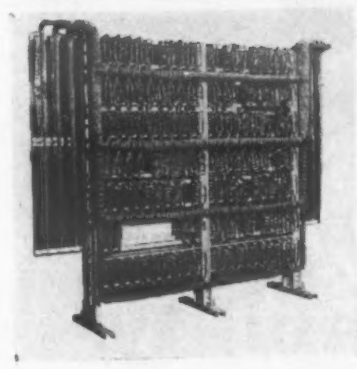
CONTROL PANEL, DUMFRIES STATION

Photos by courtesy of British Railways, Scottish Region

RELAY ROOM, DUMFRIES STATION BOX

In this installation recently completed by the Scottish Region, an extensive programme of simplification and rearrangement has been carried out, in which five signal boxes have been replaced by two.





Westinghouse plug-in type relays are installed, and the relay racks, as well as the control panel, were supplied completely prewired.

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82 York Way, Kings Cross, London, N.1
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Australia—**McKenzie & Holland (Australia) Pty. Ltd., Melbourne**
South Africa—**Westinghouse Brake & Signal Co. S.A. (Pty.) Ltd. Johannesburg**, *Agents—Bellamy & Lambie, Johannesburg.*

CLASSIFIED ADVERTISEMENTS

Classified advertisements can be accepted up to 2.30 p.m. on Monday for insertion in the current week's issue.
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This is typical of the extra service being obtained from our CY Alloy Brake Blocks—which although remarkably resistant to wear, have no adverse effect on loco tyres. This is one of our most popular applications. After exhaustive tests many of the best known manufacturers of locomotives fit CY brake blocks as standard.

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OFFICIAL NOTICE

ULSTER TRANSPORT AUTHORITY

CONTRACT FOR THREE 4,000-GALLON ROAD TANKERS

THE Authority invites tenders for:—
3 Eight-Wheel, 4,000-gallon Dual Purpose Road Tankers.

Tender forms, giving specifications, may be had on application to the Stores Superintendent, Duncrue Street, Belfast.

Tenders will not be considered unless submitted on the Authority's form of tender.

Applications for tender forms must be accompanied by a deposit of £1, which will later be returned provided a bona fide tender is lodged (whether successful or not), or provided the Authority is satisfied there was some good reason for not lodging a tender.

Tenders should be sent to the Secretary, Ulster Transport Authority, 21 Linen Hall Street, Belfast, in a sealed envelope, endorsed "Tender for Road Tankers" so as to be delivered not later than 5 p.m. on Tuesday, July 15, 1958.

An official receipt must be obtained for each tender delivered by hand. Tenders sent by post should be registered.

The Authority does not bind itself to accept the lowest or any tender.

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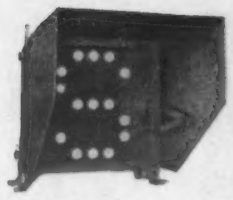

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THROUGH TO DESTINATION
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Ask your
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Potteries Golden Jubilee

(*Continued from page 7*)

deck Brush petrol buses was made in 1904. These had a fearsome front entrance and a spiral staircase going up beside the driver. Bus services started in earnest with acquisition of a Daimler fleet in 1913. Although the war made operation more than difficult the fleet totalled 27 and a charabanc in 1922. Bus competition made the removal of the tramways desirable by 1926 and after a Ministry of Transport inquiry 70 licences were obtained for tram replacement. This was carried out on July 11, 1928, so their life was just over 29 years.

Considerable Progress

By that time the P.E.T. had 171 buses. The title was changed five years later to the more appropriate Potteries Motor Traction Co., Limited. On April 20, 1944, under the present chairman and general manager, the Associated Bus Companies, Limited, was merged, with 64 vehicles. In May and June, 1951, the five largest of the company's remaining competitors were absorbed, adding 151 units to the fleet. They were Mainwaring Bros. (22 buses based on Audley); Brown's Motor Company (Tunstall), Limited (43 buses, garage and filling station in Burslem); Thomas Tilstone and Sons, Limited (32 buses based at Burslem); Stoke-on-Trent Motors, Limited (30 buses at Stoke); and Milton Bus Service, Limited (24 buses at Milton). Two years later a new and very economical garage at Hanley was built for 126 buses and also in 1953 Wells Motor Services, Limited, of Biddulph (20 buses) became a subsidiary.

P.M.T. gives public service from 3.30 a.m. to 1 a.m. the next morning, day in and day out. Its famous restaurant and cafeteria for coach passengers at Newcastle-under-Lyme is open 22 hours a day. A fleet of 50 coaches is available, some of which are on regular all-the-year-round long-distance services. The bus fleet comprises 265 single-deck and 211 double-deck buses; the staff totals 2,656. There are 11 garages and eight booking offices. Of the services, 79, or about two-thirds, do not cover the costs of operation.

The chairman today is Mr. Raymond W. Birch; the other directors are Messrs. A. F. R. Carling, R. J. Ellery, F. Peake and E. L. Taylor. Mr. C. Warwick Wroth is general manager and his principal officers are Messrs. W. G. A. Hall (chief engineer), R. Bailey (traffic manager), H. H. Thorpe (secretary and accountant) and W. E. Gott, M.B.E. (architect).

Diamond Jubilee Luncheon

At a luncheon to the civic heads and principal traders of the area served, held on June 27 to mark the diamond jubilee and presided over by Mr. Raymond Birch, the toast "The Potteries Motor Traction Co., Limited," was proposed by Alderman S. Capewell, Lord Mayor of Stoke-on-Trent, who commended the persistence of our forebears in creating the facilities we enjoyed today. He recalled a trip in the long ago from Stoke to Llandudno, "1½ hr. at the seaside," which involved 12 hr. riding on solid tyres. Today the four corners of cities were linked by bus services and the story of transport in their own city was a colourful one from Train's horse tram of 1862, through the 20-year steam era to the electric trams of 1899. Since 1928 service had been wholly by bus. The relations beween P.M.T. and the community in the unique city of Stoke-on-Trent were happy.

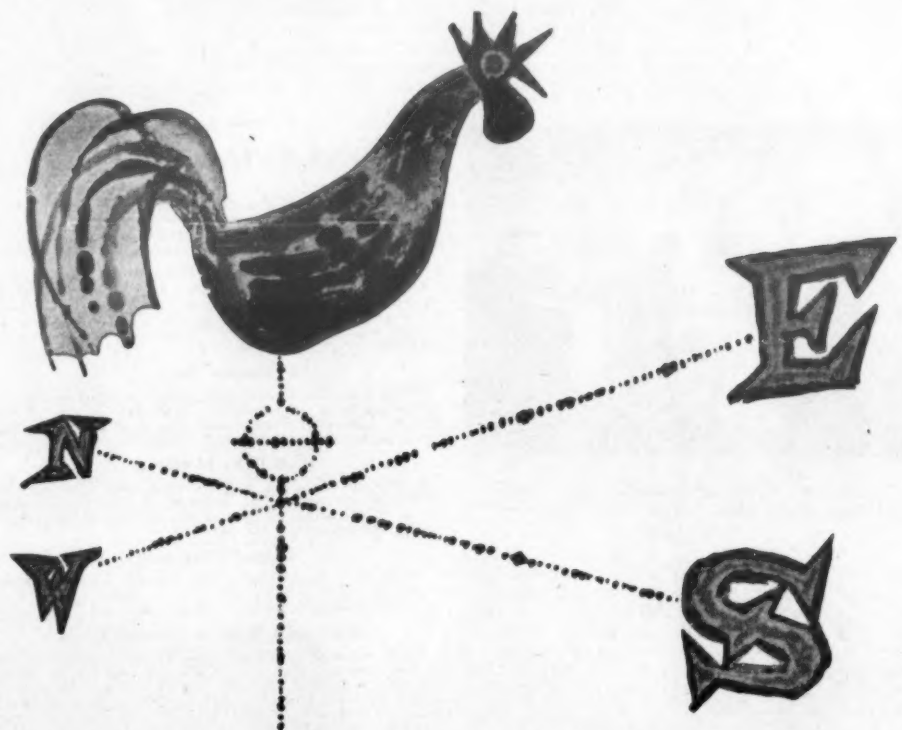
In reply Mr. Raymond Birch said that when a sizable industrial concern celebrated an important anniversary the ceremony was never considered complete without the attendance of civic representatives. As principal provider of public transport in North Staffordshire, the P.M.T. was a large employer and a part of the daily life—the customers were all local people. The P.M.T. had a modern fleet and rejuvenated buildings. There was a wider understanding today of the difficulties of public transport undertakings. The central government took over £600 a year from them for each bus.

No Monopoly

They had no monopoly. Other operators in the area were represented there today, but they had serious competitors in former customers who were now in business on their own account with cars, mopeds and cycles. There was thus every incentive to make the bus as attractive as possible. It was not the end of the bus business, but circumstances had changed in the past few years. It was quite true that facilities created traffic; many services they had developed were run at a loss for sound commercial reasons, in the hope and belief that the capital sunk would some day earn a return. Such services were started in all good faith, but the rise in costs removed all hope for them. They wanted to develop the facilities the public needed most. Their history showed they would never stand still. Among new rolling stock the latest was the 68-seat front-entrance double-decker. There were 15 at work and 75 more of an advanced design were on order. In three years the older single-deckers would disappear.

Their fortunes had changed for the better under the able general management of Mr. C. Warwick Wroth. It was difficult to believe he had reached retiring age and that at the end of October he would hand over to Mr. James Skyrme. In 16 years Wroth had become part of the Potteries scene. "My fellow directors and I greatly appreciate his work for the company and for public transport in this area. Much for which he has striven has now been achieved, with pleasant relations with the general public and with their municipal representatives. We embark on our second 60 years with confidence." Mr. Birch also paid a tribute to the staff, many of whom had served for a lifetime; 38 had over 40 years' and three over 50 years' service—Messrs. A. Ellerton, J. T. Machin and H. Unwin. They also welcomed Mr. W. Thom as a one-time general manager and later director, and Major F. J. Chapple, one-time assistant engineer and recently director and general manager of the Bristol Tramways and Carriage Company.

Mr. C. Warwick Wroth, general manager, proposed "The Guests" with obvious pleasure and paid a tribute to his colleagues who had borne the heat and burden of the day and also congratulated Mr. W. G. A. Hall on his appointment as chief engineer of Southdown Motor Services. Mr. Norman Dean, general manager, Yorkshire Traction Co., Limited, replied amusingly on behalf of his fellow guests.



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To give the best possible service to the increasing number of diesel powered transport vehicles now in operation, Shell have established a nation-wide network of agencies selling SHELL DERV. Wherever you send a diesel vehicle you can be sure that a SHELL DERV station will be close at hand. Your drivers can pay cash for SHELL DERV or by showing a Shell "Authority Card" they can refuel by a system of pre-arranged credit at any Shell agency.

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SOCIAL AND PERSONAL

A New B.T.C. Member

MR. J. RATTER, C.B.E., technical adviser on the general staff of the British Transport Commission, is to become a full-time member of the Commission upon the retirement of Sir J. Landale Train on September 30. Sir John Benstead, deputy chairman, Lord Rusholme and Sir Reginald Wilson, members, have had their appointments renewed for a further term.

* * *

The Mersey Docks and Harbour Board announces that consequent upon the retirement of Mr. Leslie Miller, Mr. C. A. Harris will succeed him as principal assistant general manager. Mr. F. M. Evans and Mr. S. H. Green will be assistant general managers and Mr. A. E. Corran, assistant secretary.

* * *

Mr. Eric Hollands, who becomes general manager and a director of A.C.V. Sales, Limited, on August 1 when Mr. A. S. C. Chattey relinquishes active executive duties, has been with A.C.V. and A.E.C. for 38 years. Leaving the R.A.F. in 1919, he joined A.E.C. at Walthamstow and became a service engineer. In 1925 he was posted to Buenos Aires as sales representative attached the local distributor. Next year he was made assistant over-

Mr. E. Hollands

seas sales manager. Mr. Hollands returned to home sales as area sales manager for the Eastern Counties in 1929. He later occupied similar positions in the Birmingham area, the Midland and North Western Division and the Northern Region, before, in 1953, he took over control of the Central Region and as a result of further promotion became municipal sales manager acting in a national capacity. During the 1939-45 war he was seconded to the Ministry of Supply in charge of a section of T.T.2.

* * *

Mr. I. S. Johnston, comptroller of stores, New Zealand Railways, has retired on superannuation at the conclusion of 40 years' service. His successor is Mr. J. A. O'Callaghan, formerly assistant comptroller of stores.

* * *

We regret to record the death of Sir Gurney Braithwaite, Parliamentary Secretary to the Ministry of Transport in 1951-53. After losing his seat in 1955 he continued for some time to be associated with transport through a directorship of Sunley Transport (Stafford), Limited. He was 63.

* * *

The London Midland Region announces a further list of staff appointments:

Mr. W. G. F. Thorley to be assistant motive power officer (utilisation), Euston.
Mr. A. G. Minty to be line traffic officer (motive power), Crewe.
Mr. A. S. R. Crome, to be assistant to accountant, Euston.
Mr. A. B. Macleod, stores superintendent, London Midland Region, to be supplies and contracts manager, London Midland (post redesignated).
Mr. M. A. Henstock to be assistant supplies and contracts manager, Euston.
Mr. J. McGuigan to be assistant (supplies), supplies and contracts manager's office, Euston.
Mr. N. Thornley to be assistant (work contracts), supplies and contracts manager's office, Euston.

* * *

Mr. C. Birch, who now becomes district traffic superintendent, York, North Eastern Region, B.R. (see this page) commenced his railway career in 1925 in the district locomotive superintendent's office of the L.N.E.R. at Sheffield. In 1932 he was appointed a traffic apprentice and after appointments at a number of places became assistant to the district superintendent, Newcastle, L.N.E.R., in 1941. In 1943 he became head of passenger-train section, superintendent's office, York, and the following year was head of freight train section. In 1946 Mr. Birch became traffic control officer, central traffic office, Marylebone, and in 1947 assistant to operating superintendent (trains), Scottish Area, L.N.E.R., at Edinburgh. His next appointment was in August, 1950, when he became district operating superintendent, Wakefield, and in the summer of 1953 he moved to a similar post at Sunderland. He was appointed district operating superintendent, York, North Eastern Region, in 1955.

Mr. C. Birch

* * *

Sir Frank Spriggs has resigned his position of managing director of the Hawker Siddeley Group by mutual agreement with the chairman, Sir Thomas Sopwith. He is succeeded by Sir Roy Dobson, a director of the group and managing director of A. V. Roe and Co., Limited.

* * *

As a further step in the combination of the operating and commercial functions in the North Eastern Region, the organisation in the Hull and York traffic manager's area is being revised. The commercial and operating districts at both Hull and York will cease to function separately and will be combined under a district traffic superintendent at each place. Mr. C. Hearnshaw, at present district operating superintendent, Hull, has been appointed district traffic superintendent, Hull, and Mr. C. Birch, at present district operating superintendent, York, has been appointed district traffic superintendent, York.

President of S.B.A.C.

THE council of the Society of British Aircraft Constructors has elected Mr. A. F. Burke, O.B.E., M.Inst.T., as president of the Society for 1958-59, with Sir George Dowty, F.R.Ae.S., M.I.Mech.E., as vice-president. Mr. C. F. Uwins, O.B.E., A.F.C., who was president in 1956-58, becomes deputy president. Mr. Burke is managing director of the de Havilland Aircraft Co., Limited, Sir George Dowty chairman of the Dowty Group, Limited.

* * *

Captain R. V. E. Case, R.D., R.N.R., chief marine superintendent, Coast Lines, Limited, has been appointed Aide-de-Camp to H.M. the Queen. He has served Coast Lines since 1937.

* * *

We record with regret the death, while on leave in England, and at the age of 69, of Mr. J. C. Jones, C.B.E., general manager of the Paraguay Central Railway Co., Limited.

* * *

Mr. K. Ratledge (British Channel Island Shipping Co., Limited) has been elected chairman of the coastal liner section of the Chamber of Shipping and Mr. R. G. Grout (General Steam Navigation Co., Limited) vice-chairman.

* * *

Last month the Ford Motor Works Military Band, under the direction of Major G. H. Willcocks, M.V.O., M.B.E., A.R.C.M., P.S.M., retained its title "Champions of Europe." Representing Great Britain, the band was playing in Ostend in an International Band Festival and Contest organised under the auspices of U.N.E.S.C.O.

* * *

To mark the retirement of Mr. F. W. Goring, stationmaster at Kings Cross, Eastern Region, and in recognition of his services to the Norwegian tourist industry, a luncheon was held in his honour at the Norwegian Embassy on June 30. At the luncheon M Per Prebensen, the Norwegian Ambassador, presented Mr. Goring with Sankt Olav's Medalien.

* * *

It is announced by Associated Commercial Vehicles, Limited, that Mr. A. S. C. Chattey, chairman of A.C.V. Sales, Limited, will relinquish his active executive duties on August 1, having reached retiring age. He will be succeeded by Mr. Eric Hollands, who is appointed director and general manager of A.C.V. Sales. Mr. Chattey joined the former London General Omnibus Co., Limited, as an apprentice in 1910. He became homes sales manager of A.E.C. in 1925 and sales manager in 1938. In 1950, on the formation of A.C.V. Sales, Limited, he became director, home sales, and held that position until his appointment to managing director in 1952. He became chairman of the company last year and will retain that office and his seat on the boards of A.E.C., A.C.V. and A.C.V. Sales.

* * *

Twenty-three Conservative and Socialist M.P.s leave London on July 7 for a five-day visit to Vienna and Berlin. They are going as guests of the Roads Campaign Council to study efforts in these cities to deal with their traffic congestion. This is the third Continental visit arranged for M.P.s by the Council, previous tours being in 1956 to Germany and Holland and in 1957 to France and Belgium. These were principally to study out-of-town roads, the present visit will concentrate on new roads inside the cities.

* * *

Major J. R. McCrindle, C.M.G., O.B.E., M.C., retired on June 30 from the board of British Overseas Airways Corporation and from the post of adviser on international affairs to the Corporation after a long period of service with B.O.A.C. and its predecessors. He was managing director of Hillman Airways in 1935, and managing director of British Airways when it took over the interests of Hillman Airways. When Imperial Airways and British Airways were merged in 1940 to form B.O.A.C., Major McCrindle was appointed its deputy director-general. He was appointed a member of the board in 1946 and since 1947 has been responsible for advising the Corporation on international affairs.

* * *

Mr. C. Hearnshaw has been appointed district traffic superintendent, Hull, North Eastern Region, B.R., arising out of the reorganisation referred to on this page. He joined the former Midland Railway in 1922. In 1937 he joined the personal staff of the divisional operating superintendent at Derby. On the formation of the district operating manager's organisation at Rotherham in 1946 Mr. Hearnshaw was appointed assistant to district operating manager and in 1950 transferred to Gloucester as assistant district operating superintendent. In January, 1954, he moved in a temporary capacity to the Birmingham district as assistant district operating superintendent, a position he vacated in July of the same year to become assistant district operating superintendent, Rotherham. He returned to Gloucester (Eastgate) as district operating superintendent in 1956, transferring in the same capacity to the North Eastern Region at Hull last year.

Mr. C. Hearnshaw

* * *

The late Sir James Milne, a former general manager of the Great Western Railway and deputy chairman of the wartime Railway Executive, left £80,859 gross, £76,663 net.

* * *

Mr. Philippe Dargeou has been appointed general manager of the Société Nationale des Chemins de fer Francais following the retirement of Mr. Charles Boyaux, and Mr. Roger Guibert has been made a deputy general manager of the S.N.C.F.

* * *

The Worshipful Company of Carmen is to award each year the Viva Shield, gold medal and citation to the individual, company, or corporation, who or which has contributed most notably to transport progress. The first award is for the year 1957 and will be presented by the master of the Company at the July 30 court meeting to Dr. E. M. Dodds, M.A., D.Sc., M.I.Mech.E., M.S.A.E., of the technical trading staff of the Esso Petroleum Co., Limited.

In all parts of the world Thornycroft chassis are in demand, not only for orthodox transport, but for the specialised requirements of Industry and Commerce.
Four- and six-wheel drive "Nubians" operate in under-developed areas where roads are almost non-existent and "Big Bens" and "Mighty Antars" enable us to offer a range capable of handling gross weights of up to 224,000 lbs. (101,000 kgs.). Illustrated above is one of a number of "Big Ben" transporters operated by the Qatar Petroleum Co., Ltd. It is moving a Woodfield-Ideco portable rig to a drilling site at Dukham, Qatar.

An illustrated Brochure gives full details of our export range; publication TCV.1410 describes the "Big Ben". Copies on request.

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VEHICLES
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TRANSPORT EQUIPMENT (THORNYCROFT) LIMITED
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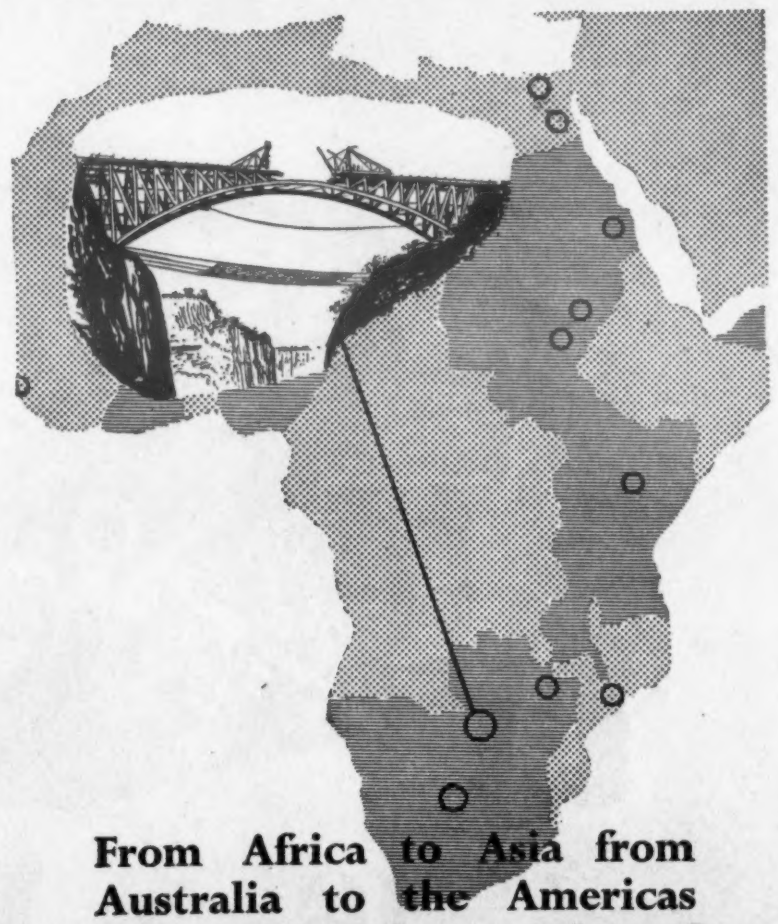

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IMPORTANT CONTRACTS

Pressed Steel in Swansea

BY arrangement with the Government, a large factory is to be built for Pressed Steel, Co., Limited, in Swansea. It will be one of the most modern of its kind in the world, embodying a high degree of automation. The new project repeats the precedent established by the company in 1947 when it helped to relieve unemployment by occupying a Government-sponsored factory in the development area of Linwood, near Glasgow, which is now employing over 2,000. It is expected that 2,000 will be employed at Swansea within 18 months of occupation and that the labour force will increase to about 4,000 over the following four to five years. It is estimated that the factory will be completed during the spring of 1960, when the company will transfer by stages the whole of its Prestcold Refrigeration Division, at present divided between the Cowley and Theale factories, thus providing greater capacity for the company's expanding Motor Car Body Division.

Hartridge Equipment for China

Leslie Hartridge, Limited, has received a £3,000 order for diesel fuel pump test benches from Communist China. It is understood that the equipment will be used for servicing David Brown tractor and other transport diesel engines.

I.A.L. Air Traffic Control in Congo

The Government of the Belgian Congo has placed an order with International Aeradio, Limited, for a number of I.A.L. control consoles for the air traffic control towers of seven airports in the Belgian Congo. The order follows a trial installation of one console at Luluabourg Airport in 1956.

North Eastern Region Contracts

Recent contracts placed by the North Eastern Region of British Railways include the following:

Bellis and Morcom, Limited, Birmingham, for air compressor and equipment for Darlington North Road locomotive works.

Conveyancer Fork Trucks, Limited, Warrington, for a battery-electric fork-lift truck for Darlington locomotive works.

Fairbank Brearley, Bingley, for a spring scragging machine at Shildon wagon works.

Henry Berry and Co., Limited, Leeds 10, for a hydraulic combined spring stripping and buckling press for York wagon works.

Hymatic Engineering Co., Limited, Redditch, and Consolidated Pneumatic Co., Limited, Gateshead, for three compressor sets and pneumatic tools

R. Watson and Company, Bolton, for supply of steelwork for bridges between Alne and Pilmoor.

Hunslet Engine Co., Limited, Leeds, for prototype 6-ft. shoulder ballast cleaning and lifting machine.

Bloemfontein Resignalling

A contract for the complete resignalling of Bloemfontein South Station and its approaches has just been completed by Westinghouse Brake and Signal Co., Limited, for South African Railways and Harbours. Bloemfontein is an important multiple junction in the centre of the diamond mining area, 250 miles south west of Pretoria. The scheme involved colour-light and searchlight signals, multiple-lamp and stencil route indicators, position-light shunt signals, electropneumatic point mechanisms and a.c. track circuits, all controlled from an L-type all-electric 147-lever locking frame housed in a new signalbox. Westinghouse South African managing agent is Bellamy and Lambie (Pty.), Limited.

SHIPPING and SHIPBUILDING

Sloan Acquired by Coast Lines

FIVE cargo ships operating between Glasgow, Belfast, Bristol, Cardiff and Swansea are involved in an announcement by Coast Lines, Limited, that it has purchased the whole of the issued share capital of William Sloan and Co., Limited, Glasgow. It is intended that the company shall continue under its present management, retaining the house flag. The services that it carries on link with others operated by Coast Lines, Limited, which should make possible greater flexibility and efficiency. The five ships, each of around 1,000 tons gross, date between 1907 and 1930.

Danish Line May Shun Thames

IN Copenhagen a spokesman for the United Steamship Co., Limited, of Denmark, has said that the company will consider discontinuing its London sailings if it does not receive guarantees of stable working conditions. This line has recently been sending some of its vessels to East Coast ports to unload dairy produce.

Television in Coastwise Ships

OVER 500 vessels have now made use of the Marconi marine television service for shipping while they are in British ports or coasting within range of United Kingdom television stations. Equipment is provided on a short-term, seasonal or permanent basis. Shipowners, without exception, have indicated that they are extremely pleased with reception.

Plastics Ships' Lifeboats

AT the request of the Ministry of Transport a meeting was held recently to discuss the possibility of fixing standard methods for constructing, surveying and testing ships' lifeboats made of reinforced plastics. Present at the meeting were representatives of the Ministry, the British Plastics Federation and the Ship and Boat Builders' National Federation. Specifications are to be evolved.

Tug for Thames Service

THE Thames Tug and Lighterage Co., Limited, which has embarked upon a programme of building steel craft for home and abroad, has just completed a motor tug of heavy scantlings for its own lighterage business on the Thames. Its length overall is 47 ft. 6 in., breadth moulded 13 ft. 6 in. and draught aft is 5 ft. 6 in. The power unit is a Thornycroft type RZ6 six-cylinder derated marine diesel developing 100 b.h.p. at 1,500 r.p.m. Stern gear and bronze propeller were also supplied by John I. Thornycroft and Co., Limited. Goodyear supplied 12-in. dia. rubber fenders which have been moulded to shape and are fitted forward and aft of the vessel. The layout of the accommodation with machinery forward and the cabin aft of the control position is to meet the company's operational requirements and the superstructure is likewise the result of many years' experience of towage on London river. The *Blackboys*, as she is named, will tow up to six barges of general merchandise.

KARRIER 'BANTAM'

4-5 TON TRACTOR-TRAILER

with petrol or diesel power-unit and choice of coupling gear.

Example of a Karrier 'Bantam' tractor-trailer with 54 b.h.p. diesel engine and quick-release 'J' type coupling gear.

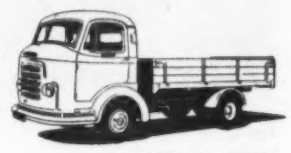
SPEEDS UP DELIVERIES!

THE KARRIER 'BANTAM' tractor-trailer combination—modern version of the original 'mechanical horse' designed and built by Karrier engineers in 1930—is a firmly established favourite in the industrial transport field. Hauling a full five-ton load with speed and economy, its manoeuvrability makes it ideal for quick work in busy city centres, and as the tractor can operate, if need be, with any number and variety of detachable trailers, no time is lost in loading or unloading.

★

'BANTAM' LOW-LOAD 2-3 TONNERS

with petrol or diesel engine to choice are also available.



'BANTAM' 2 TON TIPPER

'BANTAM' MOBILE SHOP

ROOTES PRODUCTS — BUILT STRONGER TO LAST LONGER!

KARRIER MOTORS LTD. LUTON BEDFORDSHIRE

EXPORT DIVISION: ROOTES LTD. DEVONSHIRE HOUSE PICCADILLY LONDON W.1

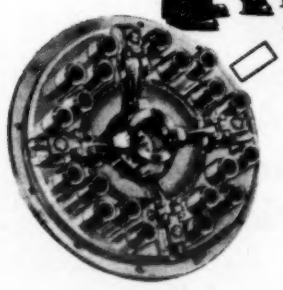
3800 GALLONS OF CHEMICALS

DELIVERED BY

AEC SOUTHALL

MAMMOTH MAJOR

Loaded with 3,800 gallons of chemicals, this A.E.C. Mammoth Major leaves the factory of A. Boake, Roberts & Co., Ltd., on its delivery round sure of a smooth journey with the transmission provided by a 16-inch Borg & Beck clutch.

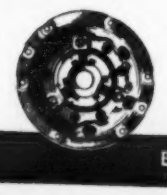


16 inch BORG & BECK

REGD TRADE MARK

HEAVY DUTY CLUTCH *transmits the power*

FOR CLUTCH RELIABILITY BE SURE AND CHECK IT'S A BORG & BECK



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